

The numbers in the base e^π

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August 31, 2025

Summary

A large-scale experiment was conducted to find formulas related to the base e^π . The numbers in this base are

$$x = \sum_{n=0}^{\infty} \frac{a(n)}{e^{\pi n}}$$

The sequence $a(n)$ comes from the OEIS catalog. These experiences were inspired by several facts. Indeed, it is known that the formula generating integer partitions

$$\prod_{k \geq 1} \frac{1}{1 - x^k} = \sum_{n=0}^{\infty} p(n) x^n$$

is

$$\frac{2^{3/8} \Gamma(3/4)}{\pi^{1/4} e^{\pi/24}} \tag{1}$$

when evaluated at the point $x = e^{-\pi}$. In analyzing the 387007 sequences from the OEIS catalog, the model that was used is due to e^π the fact that the infinite sum evaluated at , is an expression that can be detected using a program like lindep from Pari-Gp or PSLQ (Maple version). The process allowed finding 793 expressions similar to (1).

Most of the known base 10 real numbers that are derived from classical mathematical analysis have no pattern in their decimal development. On the other hand, it is much richer in base since a class of numbers has coefficients that are precisely derived from analysis, combinatorics, and number theory. The examples are numerous and varied. e^π

To detect a relation with integers, it is necessary to take the logarithm of the sum and evaluate at a certain precision (160 decimal digits) if the sign '=' is verified.

$$\log\left(\sum_{n=0}^{\infty} \frac{a(n)}{e^{k\pi n}}\right) \equiv [\pi, \log(\pi), \log(2), \log(3), \log \Gamma(3/4)] \quad (2)$$

The sign $\equiv$ means that there is an identity with 0 or says otherwise, the logarithm of the sum is a linear combination of the list of constants. This hypothesis seems to be the right one since more than 793 expressions have been identified. The first version of this article published in 2023 had identified 659. By adding items to the list (2):

$$\begin{aligned} &\pi, \log(\pi), \log(2), \log(3), \log(5), \log \Gamma(1/3), \log \Gamma(1/4), \\ &\log \Gamma(1/5), \log \Gamma(2/5), \log \Gamma(1/6), \log \Gamma(1/8), \log \Gamma(3/8), \log \Gamma(1/10), \\ &\log \Gamma(3/10), \log \Gamma(1/12), \log \Gamma(5/12). \end{aligned}$$

We obtain more identities, from 659 to 793 including those related to the most well-known Ramanujan functions.

The remarkable thing about these expressions is the fact that despite the great variety of combinatorial contexts, they all have the same model if one evaluates the continuation to the point e^π . The experiment is conclusive, since 363 sequences refer to theta functions, 262 to Ramanujan functions and variants, and 57 to partitions (shares) of integers. On the other hand, work remains to be done since there are thousands of other sequences referring to theta functions and thousands to partitions in all contexts.

Note: The extended sequences come from the 'b' files of the OEIS site, normally a sequence has about 3 full lines with about 80 term characters. In many cases, it has long been thought that an extension of the basic suite was necessary. The choice was made to take the first 2000 terms of each sequence (when available) and with a precision of 160 decimal places for the sums evaluated.

Index: most suites are defined from 0, some from 1 or another starting point. It doesn't actually change the final result since the factor e^π then appears in the final expression, it's just a shift. So I took this point as a start. In some cases the exponent is even fractional.

Each page contains the number of the suite, the name, the formula, the first few terms of the suite and the value in $x = e^{-\pi}$.

Other approaches

The expansion of x in the base e^π

One can go in the other direction from a known value. A good example is suite A000122 which lists the number of ways to represent n as a sum of 1 square. Evaluated $\ln x = e^{-\pi}$ it gives us good value $\frac{\pi^{1/4}}{\Gamma(\frac{3}{4})}$ but if we carry out the development in the base e^π we get the sequence:

$$1, 2, 0, 0, 2, 0, 0, 0, 0, 2, 0, 0, 0, 0, 0, 2, 0, 0, 0, 0, 0, 2, 0, 0, 0, 0, 0, 2, 0, \dots$$

It works of course if we know the number in advance $\frac{\pi^{1/4}}{\Gamma(\frac{3}{4})}$.

This process only works if the terms of the sequence $a(n)$ do not exceed the value e^π . The expansion of a number in the base e^π uses the same process as that which one can use to develop a real number in base 2, 10 or 16. It is therefore possible from values similar to formula (1) to go backwards. One program has found some examples but it is not enough to make a method out of them.

The Rogers-Ramanujan identities

We consider here the two functions $G(q)$ and $H(q)$.

$$G(q) = \sum_{n=0}^{\infty} \frac{q^{n^2}}{(q; q)_n} = \frac{1}{(q; q^5)_{\infty} (q^4; q^5)_{\infty}} = 1 + q + q^2 + q^3 + 2q^4 + 2q^5 + 3q^6$$

$$H(q) = \sum_{n=0}^{\infty} \frac{q^{n^2+n}}{(q; q)_n} = \frac{1}{(q^2; q^5)_{\infty} (q^3; q^5)_{\infty}} = 1 + q^2 + q^3 + q^4 + q^5 + 2q^6 + \dots$$

And we are interested in the well-known $R(q)$ function

$$R(q) = q^{1/5} \prod_{k=0}^{\infty} \frac{(1 - q^{5k+1})(1 - q^{5k+4})}{(1 - q^{5k+2})(1 - q^{5k+3})} = q^{1/5} \frac{H(q)}{G(q)}$$

Which has a remarkable development in continued fraction

$$R(q) = q^{1/5} \left[1 + \frac{q}{1 + \frac{q^2}{1 + \frac{q^3}{1 + \dots}}} \right]$$

When $q = e^{-\pi}$ the value is algebraic, the numerical value is 0.5114284554037...

and more precisely

$$\frac{1}{4}(\sqrt{5} + 1)(\sqrt{5} - \sqrt{\sqrt{5} + 2})(\sqrt{\sqrt{5} + 2} + \sqrt[4]{5})$$

But what is less known are the values when evaluated at $e^{-\pi/n}$

n	value at $e^{-\pi/n}$
1	.51142845540370351929463301354268
2	.60900295189734706892868001337065
3	.61729972602946859110062866515646
4	.61797449361217335219105975903425
5	.61802916937167616162641498260454
6	.61803359836699331081163334071515
7	.61803395712786281601119176526411
8	.61803398618842825100587467815680
9	.61803398854240941388707852692804
10	.61803398873308799018841882292394
11	.61803398874853344913923731603680
12	.61803398874978457135133206066600
13	.61803398874988591549361817618333
14	.61803398874989412463184337535911
15	.61803398874989478959331899935178
16	.61803398874989484345692221006610
17	.61803398874989484782001369310102
18	.61803398874989484817343541304887
19	.61803398874989484820206348848960
20	.61803398874989484820438243680879
21	.61803398874989484820457027763369
22	.61803398874989484820458549322731
23	.61803398874989484820458672573031
24	.61803398874989484820458682556626

The values at n are almost exactly to the n th decimal place of $\phi - 1$. The known limit of $\phi - 1$ is easy to verify if we examine the continued fraction of $R(q)$.

The same approximation phenomenon occurs with A000122, $a(n)$ being the number of solutions of $k^2 = n$. The sequence is: 1, 2, 0, 0, 2, 0, 0, 0, 2, 0, 0, 0, 2, 0, 0, ...

If we evaluate at $e^{-\pi/n}$ we see another pattern by constructing a small table of values, we have

n	value at $e^{-\pi/n}$
1	1.0864348112133080145753161215102
2	1.4194954880837661233621867313517
3	1.7323303588980335702122178570957
4	2.0000139493694248359825587149114

5	2.2360686514584039041502469921208
6	2.4494897746873515544060910297978
7	2.6457513125537614827176405810164
8	2.8284271248149862513554420625741
9	3.0000000000031532911056038691332
10	3.1622776601685229690423404608741
11	3.3166247903554063591967389627611
12	3.4641016151377548808904659455994
13	3.6055512754639893063354964239870
14	3.7416573867739413861764352658466
15	3.8729833462074168852057766566470
16	4.00000000000000000000011832276929
17	4.1231056256176605498214625615352

We quickly guess that the function $\sqrt{n}$ has a precision of n decimals. The precision increases when $n > 1$.

References:

- [1] The catalog of integer suites: [https://oeis.org/pour all suite numbers appearing in this document](https://oeis.org/pour%20all%20suite%20numbers%20appearing%20in%20this%20document).
- [2] Function Tau de Ramanujan: <https://mathworld.wolfram.com/TauFunction.html>
- [3] Partition Function: <https://mathworld.wolfram.com/PartitionFunctionP.html>
- [4] Sums of squares: <https://mathworld.wolfram.com/SumofSquaresFunction.html>
- [5] Theta Series: <https://mathworld.wolfram.com/ThetaSeries.html>
- [6] Plouffe Simon, Neil Sloane, The Encyclopedia of Integer Sequences, Academic Press, 1995.
- [7] Plouffe, Simon, The numbers in base e^π (2023) available here: <https://archive.org/details/all-articles/articles/Les%20nombres%20en%20base%20exp%28Pi%29%202023.pdf>
<http://plouffe.fr/articles/>
- [8] Theta functions on Wikipedia: [https://en.wikipedia.org/wiki/Theta function](https://en.wikipedia.org/wiki/Theta_function)

A000009 Expansion of Product_{m >= 1} (1 + x^m); number of partitions of n into distinct parts; number of partitions of n into odd parts.

$$\frac{e^{\frac{\pi}{24}} 2^{7/8}}{2}$$

1.0452502143547119425475950122036

1, 1, 1, 2, 2, 3, 4, 5, 6, 8, 10, 12, 15, 18, 22, 27, 32, 38, 46, 54, 64, 76, 89, 104, 122, 142, 165, 192, 222, 256, 296, 340, 390, 448, 512, 585, 668, 760, 864, 982, 1113, 1260, 1426, 1610, 1816, 2048, 2304, 2590, 2910, 3264, 3658, 4097, 4582, 5120, 5718, 6378

A000041 $a(n)$ is the number of partitions of n (the partition numbers).

$$\frac{e^{-\frac{\pi}{24}} 2^{3/8} \Gamma\left(\frac{3}{4}\right)}{\pi^{1/4}}$$

1.0472094700460421302197988631655

1, 1, 2, 3, 5, 7, 11, 15, 22, 30, 42, 56, 77, 101, 135, 176, 231, 297, 385, 490, 627, 792, 1002, 1255, 1575, 1958, 2436, 3010, 3718, 4565, 5604, 6842, 8349, 10143, 12310, 14883, 17977, 21637, 26015, 31185, 37338, 44583, 53174, 63261, 75175, 89134, 105558, 124754, 147273, 173525

A000118 Number of ways of writing n as a sum of 4 squares; also theta series of four-dimensional cubic lattice Z^4 .

$$\frac{\pi}{\Gamma\left(\frac{3}{4}\right)^4}$$

1.3932039296856768591842462603253

1,8,24,32,24,48,96,64,24,104,144,96,96,112,192,192,24,144,312,160,144,256,288,192,
96,248,336,320,192,240,576,256,24,384,432,384,312,304,480,448,144,336,768,352,
288,624,576,384,96,456,744,576,336,432,960,576,192

A000122 Expansion of Jacobi theta function $\text{theta}_3(x) = \sum_{m=-\infty.. \infty} x^{(m^2)}$ (number of integer solutions to $k^2 = n$).

$$\frac{\pi^{1/4}}{\Gamma\left(\frac{3}{4}\right)}$$

1.0864348112133080145753161215102

1,2,0,0,2,0,0,0,0,2,0,0,0,0,0,0,2,0,0,0,0,0,0,0,2,0,0,0,0,0,0,0,2,0,0,0,0,0,0,0,2,0,0,0,0,0,0,0,0,0,2,0,0,0,0,0,0,0,0,0,

0,0,0,2,0,0,0,0,0,0,0,0,0,0,0,0,0,0,2,0,0,0,0,0,0,0,0,0,0,0,0,0,2,0,0,0,0,0,0,0,0,0,
0,0,0,0,0,0,0,0,0,2,0,0,0,0

A000132 Number of ways of writing n as a sum of 5 squares.

$$\frac{\pi^{5/4}}{\Gamma\left(\frac{3}{4}\right)^5}$$

1.5136252483296971920546902563919

1,10,40,80,90,112,240,320,200,250,560,560,400,560,800,960,730,480,1240,1520,752,
1120,1840,1600,1200,1210,2000,2240,1600,1680,2720,3200,1480,1440,3680,3040,
2250,2800,3280,4160,2800,1920,4320,5040,2800,3472,5920

A000141 Number of ways of writing n as a sum of 6 squares.

$$\frac{\pi^{3/2}}{\Gamma\left(\frac{3}{4}\right)^6}$$

1.6444551609167710310694456429141

1,12,60,160,252,312,544,960,1020,876,1560,2400,2080,2040,3264,4160,4092,3480,
4380,7200,6552,4608,8160,10560,8224,7812,10200,13120,12480,10104,14144,19200,
16380,11520,17400,24960,18396,16440,24480,27200

A000143 Number of ways of writing n as a sum of 8 squares.

$$\frac{\pi^2}{\Gamma\left(\frac{3}{4}\right)^8}$$

1.9410171896916124299498960047983

1,16,112,448,1136,2016,3136,5504,9328,12112,14112,21312,31808,35168,38528,56448,
74864,78624,84784,109760,143136,154112,149184,194688,261184,252016,246176,
327040,390784,390240,395136,476672,599152,596736,550368,693504,859952

A000144 Number of ways of writing n as a sum of 10 squares.

$$\frac{\pi^{5/2}}{\Gamma\left(\frac{3}{4}\right)^{10}}$$

2.2910613923811374922860685762372

1,20,180,960,3380,8424,16320,28800,52020,88660,129064,175680,262080,386920,
489600,600960,840500,1137960,1330420,1563840,2050344,2611200,2986560,

3358080,4194240,5318268,5878440,6299520,7862400,9619560

A000145 Number of ways of writing n as a sum of 12 squares.

$$\frac{\pi^3}{\Gamma\left(\frac{3}{4}\right)^{12}}$$

2.7042327762658033060018095350677

1,24,264,1760,7944,25872,64416,133056,253704,472760,825264,1297056,1938336,
2963664,4437312,6091584,8118024,11368368,15653352,19822176,24832944,
32826112,42517728,51425088,61903776,78146664,98021616

A000152 Number of ways of writing n as a sum of 16 squares.

$$\frac{\pi^4}{\Gamma\left(\frac{3}{4}\right)^{16}}$$

3.7675477306783249507959408614133

1,32,480,4480,29152,140736,525952,1580800,3994080,8945824,18626112,36714624,
67978880,118156480,197120256,321692928,509145568,772845120,1143441760,
1681379200,2428524096,3392205824,4658843520,6411152640

A000156 Number of ways of writing n as a sum of 24 squares.

$$\frac{\pi^6}{\Gamma\left(\frac{3}{4}\right)^{24}}$$

7.3128749082302542001891531175607

1,48,1104,16192,170064,1362336,8662720,44981376,195082320,721175536,
2319457632,6631997376,17231109824,41469483552,93703589760,200343312768,
407488018512,793229226336,1487286966928,2697825744960,4744779429216

A000594 Ramanujan's tau function (or Ramanujan numbers, or tau numbers).

$$\frac{e^{\pi} \pi^6}{512 \Gamma\left(\frac{3}{4}\right)^{24}}$$

0.33051755959632854743859758293250

1,-24,252,-1472,4830,-6048,-16744,84480,-113643,-115920,534612,-370944,-577738,
401856,1217160,987136,-6905934,2727432,10661420,-7109760,-4219488,-12830688,

18643272,21288960,-25499225,13865712,-73279080,24647168

A000700 Expansion of Product_{k>=0} (1 + x^(2k+1)); number of partitions of n into distinct odd parts; number of self-conjugate partitions; number of symmetric Ferrers graphs with n nodes.

$$e^{-\frac{\pi}{24}} 2^{1/4}$$

1.0432982626446870125278756888156

1,1,0,1,1,1,1,1,2,2,2,2,3,3,3,4,5,5,5,6,7,8,8,9,11,12,12,14,16,17,18,20,23,25,26,29,33,35,
37,41,46,49,52,57,63,68,72,78,87,93,98,107,117,125,133,144,157,168,178,192,209,
223,236,255,276,294,312,335,361,385

A000712 Generating function = Product_{m>=1} 1/(1 - x^m)^2; a(n) = number of partitions of n into parts of 2 kinds.

$$\frac{e^{-\frac{\pi}{12}} 2^{3/4} \Gamma\left(\frac{3}{4}\right)^2}{\sqrt{\pi}}$$

1.0966476741541124095724129797593

1,2,5,10,20,36,65,110,185,300,481,752,1165,1770,2665,3956,5822,8470,12230,17490,
24842,35002,49010,68150,94235,129512,177087,240840,326015,439190,589128,
786814,1046705,1386930,1831065,2408658,3157789,4126070,5374390

A000716 Number of partitions of n into parts of 3 kinds.

$$\frac{2 e^{-\frac{\pi}{8}} 2^{1/8} \Gamma\left(\frac{3}{4}\right)^3}{\pi^{3/4}}$$

1.1484198296781527497673927188231

1,3,9,22,51,108,221,429,810,1479,2640,4599,7868,13209,21843,35581,57222,90882,
142769,221910,341649,521196,788460,1183221,1762462,2606604,3829437,5590110,
8111346,11701998,16790136,23964594,34034391,48104069,67679109,94800537,
132230021,183686994,254170332

A000727 Expansion of Product_{k >= 1} (1 - x^k)^4.

$$\frac{e^{\frac{\pi}{6}} \pi \sqrt{2}}{4 \Gamma\left(\frac{3}{4}\right)^4}$$

0.83150670626724744966596392634565

1,-4,2,8,-5,-4,-10,8,9,0,14,-16,-10,-4,0,-8,14,20,2,0,-11,20,-32,-16,0,-4,14,8,-9,20,26,0,
2,-28,0,-16,16,-28,-22,0,14,16,0,40,0,-28,26,32,-17,0,-32,-16,-22,0,-10,32,-34,-8,14,
0,45,-4,38,8,0,0,-34,-8,38,0,-22,-56,2,-28,0,0,-10,20,64,-40,-20,44

A000728 Expansion of Product_{n>=1} (1-x^n)^5.

$$\frac{e^{\frac{5\pi}{24}} \pi^{5/4} 2^{1/8}}{4 \Gamma\left(\frac{3}{4}\right)^5}$$

0.79402137781535628587400492096605

1,-5,5,10,-15,-6,-5,25,15,-20,9,-45,-5,25,20,10,15,20,-50,-35,-30,55,-50,15,80,1,50,-35,
-45,-15,5,-50,-25,-55,85,51,50,10,-40,65,10,-10,-115,50,-115,-100,85,80,-30,5,20,45,
70,65,45,-55,-100

A000729 Expansion of Product_{k>=1} (1-x^k)^6.

$$\frac{e^{\frac{\pi}{4}} \pi^{3/2} 2^{3/4}}{8 \Gamma\left(\frac{3}{4}\right)^6}$$

0.75822593332778584280344454334574

1,-6,9,10,-30,0,11,42,0,-70,18,-54,49,90,0,-22,-60,0,-110,0,81,180,-78,0,130,-198,0,
-182,-30,90,121,84,0,0,210,0,-252,-102,-270,170,0,0,-69,330,0,-38,420,0,-190,-390,0,
-108,0,0,0,-300,99,442,210,0,418,-294,0,0,-510,378,-540,138,0

A000730 Expansion of Product_{n>=1} (1-x^n)^7.

$$\frac{e^{\frac{7\pi}{24}} \pi^{7/4} 2^{3/8}}{8 \Gamma\left(\frac{3}{4}\right)^7}$$

0.72404419079064411620167339982762

1,-7,14,7,-49,21,35,41,-49,-133,98,-21,126,112,-176,-105,-126,140,-35,147,259,98,-420,
-224,238,-455,273,-14,322,406,-35,-7,-637,-196,245,-181,-574,462,147,924,217,-329,
-140,-7,-371,-777

A000731 Expansion of Product (1-x^k)^8 in powers of x.

$$\frac{e^{\frac{\pi}{3}} \pi^2}{8 \Gamma\left(\frac{3}{4}\right)^8}$$

0.69140340256740652918871412877392

1,-8,20,0,-70,64,56,0,-125,-160,308,0,110,0,-520,0,57,560,0,0,182,-512,-880,0,1190,
-448,884,0,0,0,-1400,0,-1330,1000,1820,0,-646,1280,0,0,-1331,-2464,380,0,1120,0,
2576,0,0,-880,1748,0,-3850,0,-3400,0,2703,4160,-2500,0,3458

A000735 Expansion of Product_{k>=1} (1 - x^k)^12.

$$\frac{e^{\frac{\pi}{2}} \pi^3 \sqrt{2}}{32 \Gamma\left(\frac{3}{4}\right)^{12}}$$

0.57490656597079194207510970772662

1,-12,54,-88,-99,540,-418,-648,594,836,1056,-4104,-209,4104,-594,4256,-6480,-4752,
-298,5016,17226,-12100,-5346,-1296,-9063,-7128,19494,29160,-10032,-7668,-34738,
8712,-22572,21812,49248,-46872,67562,2508,-47520,-76912,-25191,67716

A000739 Expansion of Product_{k>=1} (1 - x^k)^16.

$$\frac{e^{\frac{2\pi}{3}} \pi^4}{64 \Gamma\left(\frac{3}{4}\right)^{16}}$$

0.47803866508178721351812866664550

1,-16,104,-320,260,1248,-3712,1664,6890,-7280,-5568,-4160,33176,4640,-74240,29824,
14035,54288,27040,-142720,1508,-110240,289536,222720,-380770,-83200,-123904,
142912,7640,408000,386048

A001934 Expansion of 1/theta_4(q)^2 in powers of q.

$$\frac{\sqrt{2} \Gamma\left(\frac{3}{4}\right)^2}{\sqrt{\pi}}$$

1.1981402347355922074399224922804

1,4,12,32,76,168,352,704,1356,2532,4600,8160,14176,24168,40512,66880,108876,
174984,277932,436640,679032,1046016,1597088,2418240,3632992,5417708,
8022840,11802176,17252928,25070568,36223424,52053760,74414412

A001935 Number of partitions with no even part repeated; partitions of n in which no parts are multiples of 4.

$$\frac{e^{\frac{\pi}{8}} \sqrt{2}}{2}$$

1.0472058180553657181251543939073

1, 1, 2, 3, 4, 6, 9, 12, 16, 22, 29, 38, 50, 64, 82, 105, 132, 166, 208, 258, 320, 395, 484, 592, 722, 876, 1060, 1280, 1539, 1846, 2210, 2636, 3138, 3728, 4416, 5222, 6163, 7256, 8528, 10006, 11716, 13696, 15986, 18624, 21666, 25169, 29190, 33808, 39104, 45164

A001936 Expansion of $q^{(-1/4)} * (\eta(q^4) / \eta(q))^2$ in powers of q .

$$\frac{e^{\frac{\pi}{4}}}{2}$$

1.0966400253690077282798848296394

1, 2, 5, 10, 18, 32, 55, 90, 144, 226, 346, 522, 777, 1138, 1648, 2362, 3348, 4704, 6554, 9056, 12425, 16932, 22922, 30848, 41282, 54946, 72768, 95914, 125842, 164402, 213901, 277204, 357904, 460448, 590330, 754368, 960948, 1220370, 1545306

A001937 Expansion of $(\psi(x^2) / \psi(-x))^3$ in powers of x where $\psi()$ is a Ramanujan theta function.

$$\frac{e^{\frac{3\pi}{8}} \sqrt{2}}{4}$$

1.1484078148788087524710011715016

1, 3, 9, 22, 48, 99, 194, 363, 657, 1155, 1977, 3312, 5443, 8787, 13968, 21894, 33873, 51795, 78345, 117312, 174033, 255945, 373353, 540486, 776848, 1109040, 1573209, 2218198, 3109713, 4335840, 6014123, 8300811, 11402928, 15593702, 21232521, 28790667, 38884082

A001938 Expansion of $k/(4*q^{(1/2)})$ in powers of q , where k defined by $\text{sqrt}(k) = \theta_2(0, q)/\theta_3(0, q)$.

$$\frac{e^{\frac{\pi}{2}} \sqrt{2}}{8}$$

0.85038029420627578205997577522294

1, -4, 14, -40, 101, -236, 518, -1080, 2162, -4180, 7840, -14328, 25591, -44776, 76918, -129952, 216240, -354864, 574958, -920600, 1457946, -2285452, 3548550, -5460592, 8332425,

-12614088,18953310,-28276968,41904208,-61702876,90304598,-131399624

A001939 Expansion of $(\psi(-x) / \phi(-x))^5$ in powers of x where $\phi()$, $\psi()$ are Ramanujan theta functions.

$$\frac{e^{\frac{5\pi}{8}\sqrt{2}}}{8}$$

1.2593899752426635611873132752101

1,5,20,65,185,481,1165,2665,5820,12220,24802,48880,93865,176125,323685,583798,
1035060,1806600,3108085,5276305,8846884,14663645,24044285,39029560,
62755345,100004806,158022900,247710570,385366265,595212280,913040649,
1391449780

A001940 Absolute value of coefficients of an elliptic function.

$$\frac{e^{\frac{3\pi}{4}}}{8}$$

1.3188405092747202734708839309306

1,6,27,98,309,882,2330,5784,13644,30826,67107,141444,289746,578646,1129527,
2159774,4052721,7474806,13569463,24274716,42838245,74644794,128533884,
218881098,368859591,615513678,1017596115,1667593666,2710062756,4369417452

A001941 Absolute values of coefficients of an elliptic function.

$$\frac{e^{\frac{7\pi}{8}\sqrt{2}}}{16}$$

1.3810974543995885825897999378618

1,7,35,140,483,1498,4277,11425,28889,69734,161735,362271,786877,1662927,3428770,
6913760,13660346,26492361,50504755,94766875,175221109,319564227,575387295,
1023624280,1800577849,3133695747,5399228149,9214458260,15584195428

A002107 Expansion of $\text{Product}_{k \geq 1} (1 - x^k)^2$.

$$\frac{e^{\frac{\pi}{12}\sqrt{\pi}} 2^{1/4}}{2 \Gamma\left(\frac{3}{4}\right)^2}$$

0.91186989547152364013707755048620

1,-2,-1,2,1,2,-2,0,-2,-2,1,0,0,2,3,-2,2,0,0,-2,-2,0,0,-2,-1,0,2,2,-2,2,1,2,0,2,-2,-2,2,0,-2,0,

-4,0,0,0,1,-2,0,0,2,0,2,2,1,-2,0,2,2,0,0,-2,0,-2,0,-2,2,0,-4,0,0,-2,-1,2,0,2,0,0,0,-2

A002171 Glaisher's chi numbers. $a(n) = \chi(4n + 1)$.

$$\frac{e^{\frac{\pi}{4}} \pi 2^{1/4}}{4 \Gamma\left(\frac{3}{4}\right)^4}$$

0.90846099773996681643318774600265

1,-2,-3,6,2,0,-1,-10,0,-2,10,6,-7,14,0,-10,-12,0,-6,0,9,-4,10,0,18,-2,0,6,-14,-18,-11,12,0,
0,-22,0,20,14,-6,22,0,0,23,-26,0,-18,4,0,-14,-2,0,-20,0,0,0,12,3,30,26,0,-30,14,0,0,2,
30,-28,-26,0,-18,10,0,-13,-34,0,0,20,0,26,22,0,-6,0,6,18,0

A002284 q -expansion of modular form of weight 13/2: $\eta(8\tau)^{12} * \theta(\tau)$.

$$\frac{\Gamma\left(\frac{5}{8}\right)^{13} (7\sqrt{2} + 10) \sqrt{2 + \sqrt{2}}}{8388608 \pi^{13/4} \Gamma\left(\frac{7}{8}\right)^{13}}$$

$3.7887701338511646536026588165454 \times 10^{-6}$

0,0,0,0,1,2,0,0,2,0,0,0,-12,-22,0,0,-24,0,0,0,56,84,0,0,108,0,0,0,-112,-66,0,0,-176,0,0,0,
9,-398,0,0,-196,0,0,0,364,990,0,0,1056,0,0,0,-616,70,0,0,-728,0,0,0,432,-2354,0,0,
-1472,0,0,0,-240,1080,0,0,990,0,0,0

A002288 G.f.: $q * \text{Product}_{\{m \geq 1\}} (1 - q^m)^8 (1 - q^{2m})^8$.

$$\frac{\pi^4}{128 \Gamma\left(\frac{3}{4}\right)^{16}}$$

0.029433966645924413678093287979791

0,1,-8,12,64,-210,-96,1016,-512,-2043,1680,1092,768,1382,-8128,-2520,4096,14706,
16344,-39940,-13440,12192,-8736,68712,-6144,-34025,-11056,-50760,65024,
-102570,20160,227552,-32768,13104,-117648,-213360,-130752,160526,319520

A002408 Expansion of 8-dimensional cusp form.

$$\frac{\pi^2}{64 \Gamma\left(\frac{3}{4}\right)^8}$$

0.030328393588931444217967125074973

0,1,-8,28,-64,126,-224,344,-512,757,-1008,1332,-1792,2198,-2752,3528,-4096,4914,

-6056,6860,-8064,9632,-10656,12168,-14336,15751,-17584,20440,-22016,24390,
-28224,29792,-32768,37296,-39312,43344,-48448,50654,-54880,61544,-64512,68922

A002448 Expansion of Jacobi theta function $\theta_4(x)$.

$$\frac{\pi^{1/4} 2^{3/4}}{2 \Gamma\left(\frac{3}{4}\right)}$$

0.91357913815611682140724259340120

1,-2,0,0,2,0,0,0,0,-2,0,0,0,0,0,2,0,0,0,0,0,0,0,-2,0,0,0,0,0,0,0,0,2,0,0,0,0,0,0,0,0,
0,0,0,0,-2,0,0,0,0,0,0,0,0,0,0,0,0,2,0,0,0,0,0,0,0,0,0,0,0,0,0,0,-2,0,0,0,0,0,0,0,
0,0,0,0,0,0,0,0,0,0,0,2,0,0,0,0

A002470 Glaisher's function $W(n)$.

$$\frac{\pi^{7/2}}{64 \Gamma\left(\frac{3}{4}\right)^{14}}$$

0.049873683359633424991692848635262

0,1,4,-8,-48,10,224,80,-448,-231,40,-248,1408,1466,-2240,-80,1280,-4766,-924,1944,
-480,9600,6944,-2704,-8704,-15525,5864,-3984,-14080,25498,2240,10816,33792,
-29760,-19064,800,11088,1994,-54432,-11728,-4480

A002483 Expansion of Jacobi theta function $\{\theta_1\}'(q)$ in powers of $q^{(1/4)}$.

$$\frac{2^{15/16} \Gamma\left(\frac{5}{8}\right)^3 (2 + \sqrt{2})^{3/2}}{32 \pi^{3/4} \Gamma\left(\frac{7}{8}\right)^3 (\sqrt{2} \sqrt{2 + \sqrt{2}})^{3/2}}$$

0.086427836524391208443231605210328

0,2,0,0,0,0,0,0,0,-6,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,10,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,
0,0,0,0,-14,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,18,0,0,0

A002512 Expansion of $\chi(x)^{10} / \phi(x)^4$ in powers of x where $\phi()$, $\chi()$ are Ramanujan theta functions.

$$\frac{4 e^{-\frac{5\pi}{12}} \sqrt{2} \Gamma\left(\frac{3}{4}\right)^4}{\pi}$$

1.0966553229925654205120452150757

1,2,5,10,22,40,75,130,230,382,636,1022,1645,2570,4002,6110,9297,13910,20715,30462,
44597,64584,93085,132990,189164,266992,375192,523800,728285,1006684,1386043,
1898586,2591120,3519840,4764736,6423032

A002513 Number of cubic partitions of n : expansion of $\text{Product}_{\{k>0\}} 1/((1-x^{(2k)})^2(1-x^{(2k-1)}))$ in powers of x .

$$\frac{e^{-\frac{\pi}{8}} 2^{7/8} \Gamma\left(\frac{3}{4}\right)^2}{\sqrt{\pi}}$$

1.0491723982387612600152244707675

1,1,3,4,9,12,23,31,54,73,118,159,246,329,489,651,940,1242,1751,2298,3177,4142,5630,
7293,9776,12584,16659,21320,27922,35532,46092,58342,75039,94503,120615,
151173,191611,239060,301086,374026,468342,579408,721638,889287

A002612 Glaisher's function $U(n)$.

$$\frac{e^{\pi} \pi^{9/2}}{64 \Gamma\left(\frac{3}{4}\right)^{18}}$$

1.6079127844972924151944979407061

1,12,48,16,-414,-960,672,4800,2721,-9064,-8880,6912,-2398,-13440,29280,30976,
-10878,57228,-9360,-252384,-53760,177600,-113952,107520,436131,-16488,150624,
96768,-915678,-585600,-32640,248832,710400,-466408

A002613 Glaisher's function $J(n)$ (18 squares version).

$$\frac{9 e^{\pi} \pi^{9/2}}{256 \Gamma\left(\frac{3}{4}\right)^{18}}$$

3.6178037651189079341876203665887

1,44,432,-1136,610,-5568,6048,11456,-3423,26840,-79920,768,-5470,-77952,263520,
61696,73090,-150612,-84240,-692960,-139776,1030080,-1025568,1410048,-18525,
-240680,1355616,10752,-128222,-3396480,-293760

A003781 Expansion of theta series of $\{E_7\}^*$ lattice in powers of $q^{(1/2)}$.

$$\frac{9 \pi^{7/4}}{16 \Gamma\left(\frac{3}{4}\right)^7}$$

1.0049587494183912303582169038978

1,0,0,56,126,0,0,576,756,0,0,1512,2072,0,0,4032,4158,0,0,5544,7560,0,0,12096,11592,
0,0,13664,16704,0,0,24192,24948,0,0,27216,31878,0,0,44352,39816,0,0,41832,
55944,0,0,72576,66584,0,0,67536,76104,0,0,100800

A003982 Table read by rows: 1 if $x = y$, 0 otherwise, where $(x,y) = (0,0),(0,1),(1,0),(0,2),$
 $(1,1),(2,0),\dots$

$$\frac{e^{\frac{\pi}{2}} 2^{3/4} \Gamma\left(\frac{5}{8}\right)}{8 \pi^{1/4} \Gamma\left(\frac{7}{8}\right)}$$

1.0000034873423562514070036054270

1,0,0,0,1,0,0,0,0,0,0,0,1,0,0,0,0,0,0,0,0,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,0,0,0,0,0,
0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,
0,0,0,0,0,0,0,0,0,0,0,0,0,0,0

A004008 Expansion of theta series of E_7 lattice in powers of q^2 .

$$\frac{9 \pi^{7/4}}{2 \Gamma\left(\frac{3}{4}\right)^7}$$

8.0396699953471298428657352311822

1,126,756,2072,4158,7560,11592,16704,24948,31878,39816,55944,66584,76104,99792,
116928,133182,160272,177660,205128,249480,265104,281736,350784,382536,
390726,470232,505568,532800,615384,640080,701568,799092,809424,853776

A004011 Theta series of D_4 lattice; Fourier coefficients of Eisenstein series $E_{\{\gamma,2\}}$.

$$\frac{3 \pi}{2 \Gamma\left(\frac{3}{4}\right)^4}$$

2.0898058945285152887763693904880

1,24,24,96,24,144,96,192,24,312,144,288,96,336,192,576,24,432,312,480,144,768,288,
576,96,744,336,960,192,720,576,768,24,1152,432,1152,312,912,480,1344,144,1008,
768,1056,288,1872,576,1152,96,1368,744,1728,336

A004018 Theta series of square lattice (or number of ways of writing n as a sum of 2
squares). Often denoted by $r(n)$ or $r_2(n)$.

$$\frac{\sqrt{\pi}}{\Gamma\left(\frac{3}{4}\right)^2}$$

1.1803405990160962260453379405584

1,4,4,0,4,8,0,0,4,4,8,0,0,8,0,0,4,8,4,0,8,0,0,0,0,12,8,0,0,8,0,0,4,0,8,0,4,8,0,0,8,8,0,0,0,8,
0,0,0,4,12,0,8,8,0,0,0,0,8,0,0,8,0,0,4,16,0,0,8,0,0,0,4,8,8,0,0,0,0,0,8,4,8,0,0,16,0,0,0,
8,8,0,0,0,0,0,0,8,4,0,12,8

A004020 Theta series of square lattice with respect to edge.

$$\frac{e^{\frac{\pi}{4}} \sqrt{\pi} 2^{3/4}}{2 \Gamma\left(\frac{3}{4}\right)^2}$$

2.1769273461605882865882224804671

2,4,2,4,4,0,6,4,0,4,4,4,2,4,0,4,8,0,4,0,2,8,4,0,4,4,0,4,4,4,2,8,0,0,4,0,8,4,4,4,0,0,6,4,0,4,
8,0,4,4,0,8,0,0,0,8,6,4,4,0,4,4,0,0,4,4,8,4,0,4,4,0,6,4,0,0,8,0,4,4,0,12,0,4,4,0,0,4,4,0,
2,8,4,4,8,0,0,4,0,4,4,4,4,0

A004024 Theta series of b.c.c. lattice with respect to deep hole.

$$\frac{e^{\frac{5\pi}{8}} \pi^{3/4} 2^{7/8}}{4 \Gamma\left(\frac{3}{4}\right)^3}$$

4.1887794486390040851596545256875

4,4,8,12,4,12,12,12,16,16,8,8,28,12,20,24,8,16,28,12,16,28,20,32,20,16,16,32,20,24,28,
8,36,44,12,32,36,16,24,20,28,20,56,28,16,40,20,40,44,12,36,40,20,32,40,16,24,60,32,
36,40,24,32,60,24,40,24,20,60,36,24,32,56,32

A004025 Theta series of b.c.c. lattice with respect to long edge.

$$\frac{e^{\pi} 2^{3/4} \Gamma\left(\frac{5}{8}\right)^3 \sqrt{2+\sqrt{2}}}{32 \pi^{3/4} \Gamma\left(\frac{7}{8}\right)^3}$$

2.1728847775335793069670114858337

2,4,0,0,8,8,0,0,10,8,0,0,8,16,0,0,16,12,0,0,16,8,0,0,10,24,0,0,24,16,0,0,16,16,0,0,8,24,0,
0,32,16,0,0,24,16,0,0,18,28,0,0,24,32,0,0,16,8,0,0,24,32,0,0,32,32,0,0,32,16,0,0,16,
40,0,0,32

A004402 Expansion of $1 / \text{Sum}_{\{n=-\infty.. \infty\}} x^{(n^2)}$.

$$\frac{\Gamma\left(\frac{3}{4}\right)}{\pi^{1/4}}$$

0.92044178783559098393491713075000

1,-2,4,-8,14,-24,40,-64,100,-154,232,-344,504,-728,1040,-1472,2062,-2864,3948,-5400,
7336,-9904,13288,-17728,23528,-31066,40824,-53408,69568,-90248,116624,-150144,
192612,-246256,313808

A004403 Expansion of $1/\theta_3(q)^2$ in powers of q .

$$\frac{\Gamma\left(\frac{3}{4}\right)^2}{\sqrt{\pi}}$$

0.84721308479397908660649912348225

1,-4,12,-32,76,-168,352,-704,1356,-2532,4600,-8160,14176,-24168,40512,-66880,
108876,-174984,277932,-436640,679032,-1046016,1597088,-2418240,3632992,
-5417708,8022840,-11802176,17252928,-25070568,36223424,-52053760,74414412

A004404 Expansion of $1 / (\text{Sum}_{\{n=-\infty.. \infty\}} x^{(n^2)})^3$.

$$\frac{\Gamma\left(\frac{3}{4}\right)^3}{\pi^{3/4}}$$

0.77981032644547625244225118286032

1,-6,24,-80,234,-624,1552,-3648,8184,-17654,36816,-74544,147056,-283440,535008,
-990912,1803882,-3232224,5707624,-9943536,17106960,-29088352,48922320,
-81438528,134261584,-219336630,355242288

A004405 Expansion of $1 / (\text{Sum}_{\{n=-\infty.. \infty\}} x^{(n^2)})^4$.

$$\frac{\Gamma\left(\frac{3}{4}\right)^4}{\pi}$$

0.71777001104612999782119322366580

1,-8,40,-160,552,-1712,4896,-13120,33320,-80872,188784,-425952,932640,-1988080,
4137024,-8422848,16810536,-32943760,63482760,-120440608,225217904,
-415498496,756920160,-1362645440,2425895712

A004406 Expansion of $1 / (\text{Sum}_{\{n=-\infty.. \infty\}} x^{(n^2)})^5$.

$$\frac{\Gamma\left(\frac{3}{4}\right)^5}{\pi^{5/4}}$$

0.66066551222207178439785729975407

1,-10,60,-280,1110,-3912,12600,-37760,106620,-286290,736184,-1822920,4365800,
-10149320,22971120,-50744448,109643350,-232145040,482403060,-985229640,
1980034104,-3920000400,7652388280,-14742829440

A004407 Expansion of $(\text{Sum}_{\{n = -\infty.. \infty\}} x^{(n^2)})^{(-6)}$.

$$\frac{\Gamma\left(\frac{3}{4}\right)^6}{\pi^{3/2}}$$

0.60810414523100023948294947365040

1,-12,84,-448,2004,-7896,28224,-93312,289236,-848972,2377704,-6391872,16571968,
-41599320,101430144,-240877440,558440916,-1266406680,2814053908,
-6136337088,13148606184,-27717527552

A004408 Expansion of $(\text{Sum}_{\{n = -\infty.. \infty\}} x^{(n^2)})^{(-7)}$.

$$\frac{\Gamma\left(\frac{3}{4}\right)^7}{\pi^{7/4}}$$

0.55972446662665572927558720439677

1,-14,112,-672,3346,-14560,57120,-206208,694960,-2209774,6683040,-19345760,
53874912,-144936288,377965760,-958231680,2367566866,-5713057728,
13488657168,-31210552800,70873262880,-158145658560

A004409 Expansion of $(\text{Sum}_{\{n = -\infty.. \infty\}} x^{(n^2)})^{(-8)}$.

$$\frac{\Gamma\left(\frac{3}{4}\right)^8}{\pi^2}$$

0.51519378875716157908922364906645

1,-16,144,-960,5264,-25056,106944,-418176,1520784,-5201232,16871648,-52252992,
155341248,-445226848,1234726272,-3323392128,8704504976,-22234655520,
55498917840,-135595345600,324759439584

A004410 Expansion of (Sum_{n = -infinity..infinity} x^(n^2))^(-9).

$$\frac{\Gamma\left(\frac{3}{4}\right)^9}{\pi^{9/4}}$$

0.47420589200543359776938133891543

1,-18,180,-1320,7902,-40824,188232,-792000,3088980,-11297546,39090312,
-128849976,406865880,-1236379320,3629385936,-10324840512,28542038238,
-76852151280,201967043260,-518957929080,1305848905416

A004411 Expansion of (Sum_{n = -infinity..infinity} x^(n^2))^(-10).

$$\frac{\Gamma\left(\frac{3}{4}\right)^{10}}{\pi^{5/2}}$$

0.43647891903965248232924388671565

1,-20,220,-1760,11420,-63624,315040,-1418560,5903260,-22976820,84413912,
-294841120,984745120,-3159938760,9780562880,-29296914112,85169213340,
-240882506920,664216884540,-1788966694240,4714033526616,-12170584419840,
30826269009760

A004412 Expansion of (Sum_{n = -infinity..infinity} x^(n^2))^(-11).

$$\frac{\Gamma\left(\frac{3}{4}\right)^{11}}{\pi^{11/4}}$$

0.40175343659340390412130741775661

1,-22,264,-2288,15994,-95568,505648,-2425280,10721832,-44229350,171861360,
-633713808,2230733648,-7532979344,24502989984,-77036477760,234785552122,
-695409096096,2006117554936,-5647472566736

A004413 Expansion of (Sum_{n = -infinity..infinity} x^(n^2))^(-12).

$$\frac{\Gamma\left(\frac{3}{4}\right)^{12}}{\pi^3}$$

0.36979065144712543130450957414587

1,-24,312,-2912,21816,-139152,783328,-3986112,18650424,-81251896,332798544,
-1291339296,4776117216,-16922753616,57683178432,-189821722688,
604884735288,-1871370360240,5633654421720

A004414 Expansion of $(\text{Sum}_{\{n=-\text{inf}..\text{inf}\}} x^{(n^2)})^{(-13)}$.

$$\frac{\Gamma\left(\frac{3}{4}\right)^{13}}{\pi^{13/4}}$$

0.34037076834288000229570606008258

1,-26,364,-3640,29094,-197288,1177176,-6333184,31258604,-143374530,617193304,
-2513060264,9739727816,-36115518376,128680223152,-442158402816,
1469734751654,-4738671343952,14853923411652

A004415 Expansion of $(\text{Sum}_{\{n=-\text{inf}..\text{inf}\}} x^{(n^2)})^{(-14)}$.

$$\frac{\Gamma\left(\frac{3}{4}\right)^{14}}{\pi^{7/2}}$$

0.31329147854049424326193463266880

1,-28,420,-4480,38052,-273336,1723008,-9770240,50722980,-244273820,1102294984,
-4698110592,19034512000,-73696070840,273868321536,-980502270720,
3392689809572,-11376760267320,37060195850020

A004416 Expansion of $(\text{Sum}_{\{n=-\text{inf}..\text{inf}\}} x^{(n^2)})^{(-15)}$.

$$\frac{\Gamma\left(\frac{3}{4}\right)^{15}}{\pi^{15/4}}$$

0.28836656862146820794330438260941

1,-30,480,-5440,48930,-371136,2464320,-14688000,80001120,-403533790,1904433984,
-8477603520,35829727680,-144548556480,559157308800,-2081866609920,
7484792950050,-26057409056640,88057506412320

A004417 Expansion of $(\text{Sum } x^{(n^2)}, n = -\text{inf} .. \text{inf})^{(-16)}$.

$$\frac{\Gamma\left(\frac{3}{4}\right)^{16}}{\pi^4}$$

0.26542463997395882869137110033234

1,-32,544,-6528,61984,-495040,3453312,-21581568,123040288,-648624288,
3194776000,-14823993472,65231647104,-273714726080,1100198199040,
-4252621927680,15859616674336,-57229459033664

A004418 Expansion of $(\text{Sum}_{\{n=-\text{inf}..\text{inf}\}} x^{(n^2)})^{(-17)}$.

$$\frac{\Gamma\left(\frac{3}{4}\right)^{17}}{\pi^{17/4}}$$

0.24430793015324873382152388197261

1,-34,612,-7752,77486,-649944,4751976,-31070016,185025348,-1017375098,
5220022312,-25201899288,115265410488,-502210951832,2094181357968,
-8390590348992,32410328691374,-121046064563376

A004419 Expansion of $(\text{Sum}_{\{n=-\text{inf}..\text{inf}\}} x^{(n^2)})^{(-18)}$.

$$\frac{\Gamma\left(\frac{3}{4}\right)^{18}}{\pi^9/2}$$

0.22487122801266895215402690020187

1,-36,684,-9120,95724,-841320,6433248,-43918272,272670444,-1561033348,
8329222584,-41772509280,198265106400,-895619289384,3868763174208,
-16044584545344,64103055405804,-247461482137032

A004420 Expansion of $(\text{Sum}_{\{n=-\text{inf}..\text{inf}\}} x^{(n^2)})^{(-19)}$.

$$\frac{\Gamma\left(\frac{3}{4}\right)^{19}}{\pi^{19/4}}$$

0.20698087514476583963382916873363

1,-38,760,-10640,117002,-1075248,8582224,-61061440,394559320,-2348001494,
13008061200,-67666510320,332809029680,-1556541579760,6955832361824,
-29820933412800,123079426294922,-490508040685920

A004421 Expansion of $(\text{Sum}_{\{n=-\text{inf}..\text{inf}\}} x^{(n^2)})^{(-20)}$.

$$\frac{\Gamma\left(\frac{3}{4}\right)^{20}}{\pi^5}$$

0.19051384676602350624704226687682

1,-40,840,-12320,141640,-1358448,11297440,-83631680,561539400,-3468363400,
19922193200,-107343635040,546373245600,-2642351627440,12200693947200,
-54007656632000,230002160331080,-945228781171920

A004422 Expansion of $(\text{Sum}_{\{n=-\text{inf}..\text{inf}\}} x^{(n^2)})^{(-21)}$.

$$\frac{\Gamma\left(\frac{3}{4}\right)^{21}}{\pi^{21/4}}$$

0.17535690572475449964648085916134

1,-42,924,-14168,169974,-1698312,14692216,-112987776,787175004,-5039316786,
29971442424,-167060546184,878920016296,-4390113366408,20920981191792,
-95515527307648,419275600889334,-1775001330567696

A004423 Expansion of $(\text{Sum}_{\{n=-\text{inf}..\text{inf}\}} x^{(n^2)})^{(-22)}$.

$$\frac{\Gamma\left(\frac{3}{4}\right)^{22}}{\pi^{11/2}}$$

0.16140582381461021118522782521847

1,-44,1012,-16192,202356,-2102936,18896064,-150747520,1088265332,-7211641580,
44356933544,-255472920256,1387689358528,-7151069205016,35134409940608,
-165273439140480,747047401948276,-3254796172584792

A004424 Expansion of $(\text{Sum}_{\{n=-\text{inf}..\text{inf}\}} x^{(n^2)})^{(-23)}$.

$$\frac{\Gamma\left(\frac{3}{4}\right)^{23}}{\pi^{23/4}}$$

0.14856466503899623062585451325936

1,-46,1104,-18400,239154,-2581152,24056160,-198823040,1485433104,-10177345486,
64663512288,-384402300960,2153523131040,-11437761254432,57880610587200,
-280265903825280,1303272560982834,-5838468742907712

A004425 Expansion of $(\text{Sum } x^{(n^2)}, n = -\text{inf} .. \text{inf})^{(-24)}$.

$$\frac{\Gamma\left(\frac{3}{4}\right)^{24}}{\pi^6}$$

0.13674512589768940984142190063751

1,-48,1200,-20800,280752,-3142560,30338880,-259459200,2003790000,-14178640368,
92960115360,-569803615680,3289122824000,-17987650183200,93669997008000,
-466466351287680,2229627536828592,-10261752523778400

A004533 Theta series of 12-dimensional unimodular lattice $\{D_{12}\}^{\{+\}}$.

$$\frac{e^{\frac{3\pi}{8}} \pi^{3/4} 2^{1/8}}{2 \Gamma\left(\frac{3}{4}\right)^3}$$

2.2711765977274608590138182328350

2,6,6,8,12,6,12,18,6,14,18,12,18,18,12,12,30,18,14,24,6,30,30,12,24,24,18,24,30,12,26,
42,24,12,30,18,24,48,18,36,24,18,36,30,24,26,48,18,30,48,12,36,54,12,24,30,36,48,
42,30,24,54,18,26,36,30,54,54,18,24

A005875 Theta series of simple cubic lattice; also number of ways of writing a nonnegative integer n as a sum of 3 squares (zero being allowed).

$$\frac{\pi^{3/4}}{\Gamma\left(\frac{3}{4}\right)^3}$$

1.2823631158594553990001428183793

1,6,12,8,6,24,24,0,12,30,24,24,8,24,48,0,6,48,36,24,24,48,24,0,24,30,72,32,0,72,48,0,
12,48,48,48,30,24,72,0,24,96,48,24,24,72,48,0,8,54,84,48,24,72,96,0,48,48,24,72,0,
72,96,0,6,96,96,24,48,96,48,0,36,48,120

A005876 Theta series of cubic lattice with respect to edge.

$$\frac{e^{\frac{\pi}{4}} \pi^{3/4} 2^{3/4}}{2 \Gamma\left(\frac{3}{4}\right)^3}$$

2.3650896503510663608725163354788

2,8,10,8,16,16,10,24,16,8,32,24,18,24,16,24,32,32,16,32,34,16,48,16,16,56,32,24,32,40,
26,48,48,16,32,32,32,56,48,24,64,32,26,56,16,40,64,64,16,40,48,32,80,32,32,64,50,
40,48,48,48,56,48,16,64,72,32,88,32,24

A005877 Theta series of cubic lattice with respect to square.

$$\frac{e^{\frac{\pi}{2}} \pi^{3/4} \sqrt{2}}{2 \Gamma\left(\frac{3}{4}\right)^3}$$

4.3619852949753607979616209697970

4,8,8,16,12,8,24,16,16,24,16,16,28,32,8,32,32,16,40,16,16,40,40,32,36,16,24,48,32,24,
40,48,16,56,32,16,64,40,32,32,36,40,48,48,32,48,48,16,80,40,24,80

A005878 Theta series of cubic lattice with respect to deep hole.

$$\frac{2 e^{\frac{3\pi}{8}} \pi^{3/4} 2^{1/8}}{\Gamma\left(\frac{3}{4}\right)^3}$$

9.0847063909098434360552729313402

8,24,24,32,48,24,48,72,24,56,72,48,72,72,48,48,120,72,56,96,24,120,120,48,96,96,72,
96,120,48,104,168,96,48,120,72,96,192,72,144,96,72,144,120,96,104,192,72,120,192,
48,144,216,48,96,120,144,192,168,120,96,216,72

A005879 Theta series of D_4 lattice with respect to deep hole.

$$\frac{e^{\frac{\pi}{2}} \pi \sqrt{2}}{\Gamma\left(\frac{3}{4}\right)^4}$$

9.4780253409235635621363234326237

8,32,48,64,104,96,112,192,144,160,256,192,248,320,240,256,384,384,304,448,336,352,
624,384,456,576,432,576,640,480,496,832,672,544,768,576,592,992,768,640,968,
672,864,960,720,896,1024,960,784,1248,816,832,1536

A005880 Theta series of D_4 lattice with respect to edge.

$$\frac{e^{\frac{\pi}{2}} \pi \sqrt{2}}{4 \Gamma\left(\frac{3}{4}\right)^4}$$

2.3695063352308908905340808581559

2,8,12,16,26,24,28,48,36,40,64,48,62,80,60,64,96,96,76,112,84,88,156,96,114,144,108,
144,160,120,124,208,168,136,192,144,148,248,192,160,242,168,216,240

A005883 Theta series of square lattice with respect to deep hole.

$$\frac{e^{\frac{\pi}{4}} \sqrt{\pi} 2^{3/4}}{\Gamma\left(\frac{3}{4}\right)^2}$$

4.3538546923211765731764449609342

4,8,4,8,8,0,12,8,0,8,8,8,4,8,0,8,16,0,8,0,4,16,8,0,8,8,0,8,8,8,4,16,0,0,8,0,16,8,8,8,0,0,12,
8,0,8,16,0,8,8,0,16,0,0,0,16,12,8,8,0,8,8,0,0,8,8,16,8,0,8,8,0,12,8,0,0,16,0,8,8,0,24,0,
8,8,0,0,8,8,0,4,16,8,8,16,0,0

A005884 Theta series of f.c.c. lattice with respect to edge.

$$\frac{e^{\frac{\pi}{2}} \pi^{3/4} \sqrt{2}}{4 \Gamma\left(\frac{3}{4}\right)^3}$$

2.1809926474876803989808104848985

2,4,4,8,6,4,12,8,8,12,8,8,14,16,4,16,16,8,20,8,8,20,20,16,18,8,12,24,16,12,20,24,8,28,
16,8,32,20,16,16,18,20,24,24,16,24,24,8,40,20,12,40,16,12,20,24,16,40,36,16,22,24,
24,32,16,12,40,32,24,28,16,24,40,28,12

A005886 Theta series of f.c.c. lattice with respect to tetrahedral hole.

$$\frac{e^{\frac{3\pi}{8}} \pi^{3/4} 2^{1/8}}{\Gamma\left(\frac{3}{4}\right)^3}$$

4.5423531954549217180276364656701

4,12,12,16,24,12,24,36,12,28,36,24,36,36,24,24,60,36,28,48,12,60,60,24,48,48,36,48,60,
24,52,84,48,24,60,36,48,96,36,72,48,36,72,60,48,52,96,36,60,96,24,72,108,24,48,60,
72,96,84,60,48,108,36,52,72,60,108,108,36,48,108

A005931 Theta series of the coset of the E_7 lattice in its dual.

$$\frac{15 e^{\frac{3\pi}{4}} \pi^{7/4} 2^{1/4}}{4 \Gamma\left(\frac{3}{4}\right)^7}$$

84.061423648437965574829788283410

56,576,1512,4032,5544,12096,13664,24192,27216,44352,41832,72576,67536,100800,
101304,145728,126504,205632,176456,249984,234360,326592,277200,423360,
355320,479808,439992,608832,494928,749952,599760,806400,745416

A006914 Theta series of laminated lattice $\Lambda_{12}^{\{max\}}$.

$$\frac{15 \pi^3}{16 \Gamma\left(\frac{3}{4}\right)^{12}}$$

2.5352182277491905993766964391260

1,0,648,3072,20232,36864,158112,202752,646920,712704,2025648,1926144,4936608,
4460544,10891584,9160704,20700936,17031168,38421864,29703168,63245232,

49201152,104361696,77285376,157848480,117227520,240598512,172849152,
340059456

A006922 Expansion of $1/\eta(q)^{24}$; Fourier coefficients of $T_{\{14\}}$.

$$\frac{512 e^{-\pi} \Gamma\left(\frac{3}{4}\right)^{24}}{\pi^6}$$

3.0255578590781419776384663151922

1,24,324,3200,25650,176256,1073720,5930496,30178575,143184000,639249300,
2705114880,10914317934,42189811200,156883829400,563116739584,
1956790259235,6599620022400,21651325216200,69228721526400,
216108718571250,659641645039360,1971466420726656

A006950 G.f.: $\text{Product}_{\{k \geq 1\}} (1 + x^{(2*k - 1)}) / (1 - x^{(2*k)})$.

$$\frac{e^{-\frac{\pi}{8}} 2^{3/4} \Gamma\left(\frac{3}{4}\right)}{\pi^{1/4}}$$

1.0452538595254811707738356235247

1,1,1,2,3,4,5,7,10,13,16,21,28,35,43,55,70,86,105,130,161,196,236,287,350,420,501,
602,722,858,1016,1206,1431,1687,1981,2331,2741,3206,3740,4368,5096,5922,6868,
7967,9233,10670,12306,14193,16357,18803,21581

A007096 Expansion of θ_3 / θ_4 .

$$2^{1/4}$$

1.1892071150027210667174999705605

1,4,8,16,32,56,96,160,256,404,624,944,1408,2072,3008,4320,6144,8648,12072,16720,
22976,31360,42528,57312,76800,102364,135728,179104,235264,307672,400704,
519808,671744,864960,1109904,1419456,1809568,2299832

A007191 McKay-Thompson series of class 2B for the Monster group with $a(0) = -24$.

$$8 e^{-\pi}$$

0.34571134611017799819534189737382

1,-24,276,-2048,11202,-49152,184024,-614400,1881471,-5373952,14478180,-37122048,
91231550,-216072192,495248952,-1102430208,2390434947,-5061476352,
10487167336,-21301241856,42481784514,-83300614144

A007246 McKay-Thompson series of class 2B for the Monster group.

$$32 e^{-\pi}$$

$$1.3828453844407119927813675894953$$

1,0,276,-2048,11202,-49152,184024,-614400,1881471,-5373952,14478180,-37122048,
91231550,-216072192,495248952,-1102430208,2390434947,-5061476352,
10487167336,-21301241856,42481784514,-83300614144

A007247 McKay-Thompson series of class 4B for the Monster group.

$$18 e^{-\frac{\pi}{2}} \sqrt{2}$$

$$5.2917500918811744141042643711657$$

1,52,834,4760,24703,94980,343998,1077496,3222915,8844712,23381058,58359168,
141244796,327974700,742169724,1627202744,3490345477,7301071680,
14987511560,30138820888,59623576440,115928963656

A007248 McKay-Thompson series of class 4C for the Monster group.

$$6 e^{-\frac{\pi}{2}} \sqrt{2}$$

$$1.7639166972937248047014214570552$$

1,20,-62,216,-641,1636,-3778,8248,-17277,34664,-66878,125312,-229252,409676,
-716420,1230328,-2079227,3460416,-5677816,9198424,-14729608,23328520,
-36567242,56774712,-87369461,133321908,-201825396,303248408,-452431503

A007249 McKay-Thompson series of class 4D for the Monster group.

$$2 e^{-\frac{\pi}{2}} \sqrt{2}$$

$$0.58797223243124160156714048568508$$

1,-12,66,-232,639,-1596,3774,-8328,17283,-34520,66882,-125568,229244,-409236,
716412,-1231048,2079237,-3459264,5677832,-9200232,14729592,-23325752,
36567222,-56778888,87369483,-133315692

A007259 Expansion of Product_{m>=1} (1 + q^m)^{-8}.

$$2 e^{-\frac{\pi}{3}}$$

$$0.70183961435682193513147343199390$$

1,-8,28,-64,134,-288,568,-1024,1809,-3152,5316,-8704,13990,-22208,34696,-53248,
80724,-121240,180068,-264448,384940,-556064,796760,-1132544,1598789,-2243056,

3127360,-4333568,5971922,-8188096,11170160,-15163392,20491033,-27572936

A007267 Expansion of $16 * (1 + k^2)^4 / (k * k'^2)^2$ in powers of q where k is the Jacobian elliptic modulus, k' the complementary modulus and q is the nome.

$$648 e^{-\pi}$$

28.002619034924417853822693687280

1,104,4372,96256,1240002,10698752,74428120,431529984,2206741887,10117578752,
42616961892,166564106240,611800208702,2125795885056,7040425608760,
22327393665024,68134255043715,200740384538624

A007331 Fourier coefficients of $E_{\infty,4}$.

$$\frac{\pi^2}{32 \Gamma\left(\frac{3}{4}\right)^8}$$

0.060656787177862888435934250149947

0,1,8,28,64,126,224,344,512,757,1008,1332,1792,2198,2752,3528,4096,4914,6056,6860,
8064,9632,10656,12168,14336,15751,17584,20440,22016,24390,28224,29792,32768,
37296,39312,43344,48448,50654,54880,61544,64512

A008425 Theta series of $\{D_6\}^*$ lattice.

$$\frac{5 \pi^{3/2}}{8 \Gamma\left(\frac{3}{4}\right)^6}$$

1.0277844755729818944184035268213

1,0,12,64,60,0,160,384,252,0,312,960,544,0,960,1664,1020,0,876,2880,1560,0,2400,
4224,2080,0,2040,5248,3264,0,4160,7680,4092,0,3480,9984,4380,0,7200,10880,6552,
0,4608,14784,8160,0,10560,17664,8224,0,7812,18560

A008427 Theta series of $\{D_8\}^*$ lattice.

$$\frac{5 \pi^2}{4 \Gamma\left(\frac{3}{4}\right)^8}$$

2.4262714871145155374373700059979

1,16,368,448,3184,2016,10304,5504,25712,12112,46368,21312,89152,35168,126592,
56448,205936,78624,278576,109760,401184,154112,490176,194688,719936,252016,
808864,327040

A008428 Theta series of D_6 lattice.

$$\frac{5 \pi^{3/2}}{2 \Gamma\left(\frac{3}{4}\right)^6}$$

4.1111379022919275776736141072852

1,60,252,544,1020,1560,2080,3264,4092,4380,6552,8160,8224,10200,12480,14144,
16380,17400,18396,24480,26520,23040,31200,35904,32800,39060,42840,44608,
49344,50520,54080,65280,65532,57600,73080,84864,74460,82200,93600,92480

A008438 Sum of divisors of $2^n + 1$.

$$\frac{e^{\frac{\pi}{2}} \pi \sqrt{2}}{8 \Gamma\left(\frac{3}{4}\right)^4}$$

1.1847531676154454452670404290780

1,4,6,8,13,12,14,24,18,20,32,24,31,40,30,32,48,48,38,56,42,44,78,48,57,72,54,72,80,60,
62,104,84,68,96,72,74,124,96,80,121,84,108,120,90,112,128,120,98,156,102,104,192,
108,110,152,114,144,182,144,133,168

A008439 Expansion of Jacobi theta constant $\theta_2^5/32$.

$$\frac{e^{\frac{5\pi}{8}} \pi^{5/4} 2^{7/8}}{16 \Gamma\left(\frac{3}{4}\right)^5}$$

1.2360466108882188393750382673270

1,5,10,15,25,31,35,55,60,60,90,90,95,135,125,126,170,180,175,215,220,195,285,280,
245,340,300,320,405,350,351,450,465,415,515,480,425,620,590,505,655,625,590,
755,660,650,805,770,755,855,841,730,1045,960,770,1100

A008440 Expansion of Jacobi theta constant $\theta_2^6/(64q^{(3/2)})$.

$$\frac{e^{\frac{3\pi}{4}} \pi^{3/2} 2^{1/4}}{16 \Gamma\left(\frac{3}{4}\right)^6}$$

1.2895607845162211414951500603627

1,6,15,26,45,66,82,120,156,170,231,276,290,390,435,438,561,630,651,780,861,842,
1020,1170,1095,1326,1431,1370,1716,1740,1682,2016,2145,2132,2415,2550,2353,

2850,3120,2810,3321,3486,3285,3906,4005,3722,4350

A008441 Number of ways of writing n as the sum of 2 triangular numbers.

$$\frac{e^{\frac{\pi}{4}} \sqrt{\pi} 2^{3/4}}{4 \Gamma\left(\frac{3}{4}\right)^2}$$

1.0884636730802941432941112402336

1,2,1,2,2,0,3,2,0,2,2,2,1,2,0,2,4,0,2,0,1,4,2,0,2,2,0,2,2,2,1,4,0,0,2,0,4,2,2,2,0,0,3,2,0,2,
4,0,2,2,0,4,0,0,0,4,3,2,2,0,2,2,0,0,2,2,4,2,0,2,2,0,3,2,0,0,4,0,2,2,0,6,0,2,2,0,0,2,2,0,1,
4,2,2,4,0,0,2,0,2,2,2,2,0,0

A008442 Expansion of Jacobi theta constant $(\theta_2(2z))^2/4$.

$$\frac{e^{\pi \sqrt{2}} \Gamma\left(\frac{5}{8}\right)^2}{32 \sqrt{\pi} \Gamma\left(\frac{7}{8}\right)^2}$$

1.0000069746968740595237123261747

1,0,0,0,2,0,0,0,1,0,0,0,2,0,0,0,2,0,0,0,0,0,0,0,3,0,0,0,2,0,0,0,0,0,0,0,2,0,0,0,2,0,0,0,2,0,
0,0,1,0,0,0,2,0,0,0,0,0,0,0,2,0,0,0,4,0,0,0,0,0,0,0,2,0,0,0,0,0,0,1,0,0,0,4,0,0,0,2,0,0,
0,0,0,0,0,2,0,0,0,2,0,0,0,0

A008443 Number of ordered ways of writing n as the sum of 3 triangular numbers.

$$\frac{e^{\frac{3\pi}{8}} \pi^{3/4} 2^{1/8}}{4 \Gamma\left(\frac{3}{4}\right)^3}$$

1.1355882988637304295069091164175

1,3,3,4,6,3,6,9,3,7,9,6,9,9,6,6,15,9,7,12,3,15,15,6,12,12,9,12,15,6,13,21,12,6,15,9,12,24,
9,18,12,9,18,15,12,13,24,9,15,24,6,18,27,6,12,15,18,24,21,15,12,27,9,13,18,15,27,27,
9,12,27,15,24,21,12,15,30,15,12

A008451 Number of ways of writing n as a sum of 7 squares.

$$\frac{\pi^{7/4}}{\Gamma\left(\frac{3}{4}\right)^7}$$

1.7865933322993621873034967180405

1,14,84,280,574,840,1288,2368,3444,3542,4424,7560,9240,8456,11088,16576,18494,
17808,19740,27720,34440,29456,31304,49728,52808,43414,52248,68320,74048,
68376,71120,99456,110964,89936,94864,136080,145222

A008452 Number of ways of writing n as a sum of 9 squares.

$$\frac{\pi^{9/4}}{\Gamma\left(\frac{3}{4}\right)^9}$$

2.1087886440443926216075436066912

1,18,144,672,2034,4320,7392,12672,22608,34802,44640,60768,93984,125280,141120,
182400,262386,317376,343536,421344,557280,665280,703584,800640,1068384,
1256562,1234080,1421184,1851264,2034720,2057280,2338560

A008453 Number of ways of writing n as a sum of 11 squares.

$$\frac{\pi^{11/4}}{\Gamma\left(\frac{3}{4}\right)^{11}}$$

2.4890888513096997082758085955046

1,22,220,1320,5302,15224,33528,63360,116380,209550,339064,491768,719400,
1095160,1538416,1964160,2624182,3696880,4763220,5686648,7217144,9528816,
11676280,13495680,16317048,20787470,25022184,27785120,32503680

A008658 Theta series of direct sum of 2 copies of D_4 lattice in powers of q^2 .

$$\frac{9\pi^2}{4\Gamma\left(\frac{3}{4}\right)^8}$$

4.3672886768061279673872660107962

1,48,624,1344,5232,6048,17472,16512,42096,36336,78624,63936,146496,105504,
214656,169344,337008,235872,472368,329280,659232,462336,831168,584064,
1178688,756048,1371552,981120,1799808,1170720,2201472

A008659 Theta series of direct sum of 3 copies of D_4 lattice.

$$\frac{27\pi^3}{8\Gamma\left(\frac{3}{4}\right)^{12}}$$

9.1267856198970861577561071808535

1,72,1800,17568,57096,225072,439200,1210176,1826568,4269096,5626800,11595744,

A010815 From Euler's Pentagonal Theorem: coefficient of q^n in $\text{Product}_{m \geq 1} (1 - q^m)$.

$$\frac{e^{\frac{\pi}{24}} \pi^{1/4} 2^{5/8}}{2 \Gamma\left(\frac{3}{4}\right)}$$

$$1,-1,-1,0,0,1,0,1,0,0,0,0,-1,0,0,-1,0,0,0,0,0,0,1,0,0,0,1,0,0,0,0,0,0,0,-1,0,0,0,0,-1,0,0,0,0, \\ 0,0,0,0,0,0,0,1,0,0,0,0,0,1,0,0,0,0,0,0,0,0,0,0,0,0,-1,0,0,0,0,0,0,-1,0,0,0,0,0,0,0,0,0, \\ 0,0,0,0,1$$
$$\frac{e^{\frac{\pi}{8}} \pi^{3/4} 2^{7/8}}{4 \Gamma\left(\frac{3}{4}\right)^3}$$
$$1, -3, 0, 5, 0, 0, -7, 0, 0, 0, 9, 0, 0, 0, 0, -11, 0, 0, 0, 0, 0, 13, 0, 0, 0, 0, 0, 0, -15, 0, 0, 0, 0, 0, 0, 0, 17, 0, 0, 0, 0, 0, 0, 0, 0, -19, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 21, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, -23, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 25, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, -27, 0, 0, 0, 0, 0, 0, 0, 0$$
$$\frac{e^{\frac{3\pi}{8}} \pi^{9/4} 2^{5/8}}{16 \Gamma\left(\frac{3}{4}\right)^9}$$

1,-9,27,-12,-90,135,54,-99,-189,-85,657,-162,-135,-171,-810,702,495,837,-673,-900,243,
-1053,-297,1566,2700,-1764,81,-1188,-1377,270,-2043,3321,-756,3726,3015,-4563,
-3348,504,-351,-1350,-468

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$$\frac{e^{\frac{5\pi}{12}} \pi^{5/2} 2^{1/4}}{16 \Gamma\left(\frac{3}{4}\right)^{10}}$$

0.63046994842779677137537194461462

1,-10,35,-30,-105,238,0,-260,-165,140,1054,-770,-595,0,-715,2162,455,0,-2380,-1820,
2401,-680,1495,3080,1615,-6958,-1925,0,0,5100,-1442,8330,-5355,1330,0,-16790,0,
8190,8265,0,1918,0,8415,-10230,-7140,-9362

A010819 Expansion of Product_{k>=1} (1 - x^k)^11.

$$\frac{e^{\frac{11\pi}{24}} \pi^{11/4} 2^{7/8}}{32 \Gamma\left(\frac{3}{4}\right)^{11}}$$

0.60204760027626298811539092564694

1,-11,44,-55,-110,374,-143,-462,55,495,1287,-2069,-902,1210,-275,3795,-1507,-2431,
-3575,-385,8690,-1661,1143,1265,-4290,-12716,2299,11440,3905,8635,-10472,6105,
-20548,-1540,8690,-24904,29634,25003,8470,-23320,-18183

A010820 Expansion of Product_{k>=1} (1 - x^k)^13.

$$\frac{e^{\frac{13\pi}{24}} \pi^{13/4} 2^{1/8}}{32 \Gamma\left(\frac{3}{4}\right)^{13}}$$

0.54898908233279757798322351132906

1,-13,65,-130,-65,728,-871,-715,1560,845,78,-6513,2730,8605,-4355,2483,-13299,-2275,
11440,10010,19734,-41834,-11375,12870,-2730,14911,33201,25155,-70070,-36595,
-28925,64389,13650,52780

A010821 Expansion of Product_{k>=1} (1 - x^k)^14.

$$\frac{e^{\frac{7\pi}{12}} \pi^{7/2} 2^{3/4}}{64 \Gamma\left(\frac{3}{4}\right)^{14}}$$

0.52423999021767865801213110532972

1,-14,77,-182,0,924,-1547,-506,3003,0,-1729,-8372,9177,13090,-15625,0,-17017,10556,
30107,0,7084,-89206,11571,69160,0,27132,0,-19096,-153502,0,93093,165242,0,
-38962,0,-420838,257439

A010822 Expansion of Product_{k>=1} (1 - x^k)^15.

$$\frac{e^{\frac{5\pi}{8}} \pi^{15/4} 2^{3/8}}{64 \Gamma\left(\frac{3}{4}\right)^{15}}$$

0.50060661712181581298889081904089

1,-15,90,-245,105,1107,-2485,195,4860,-2420,-3990,-8190,19695,13755,-38475,3990,
-9750,34020,43015,-46605,-13860,-127385,106485,165240,-79275,-16380,-92340,
-35840,-151995,188550,315783,90090,-271215,-307485,20475,-505440,915385,
209340,-284130,337645,-294225,269325,-1707970,-70305,1297620,574210,492765,
251370,-847245,-1102725,438129,-1416190,641445,0

A010823 Expansion of Product_{k>=1} (1 - x^k)^17.

$$\frac{e^{\frac{17\pi}{24}} \pi^{17/4} 2^{5/8}}{128 \Gamma\left(\frac{3}{4}\right)^{17}}$$

0.45648810362722324198150635170759

1,-17,119,-408,476,1309,-5236,4233,8602,-15470,-4250,5236,45815,-21182,-117776,
101065,46767,36685,-36771,-267036,143514,-18241,486285,81753,-1007250,104006,
165767,579292,78829,187510

A010824 Expansion of Product_{k>=1} (1 - x^k)^18.

$$\frac{e^{\frac{3\pi}{4}} \pi^9/2 2^{1/4}}{128 \Gamma\left(\frac{3}{4}\right)^{18}}$$

0.43590906755947600428875214172108

1,-18,135,-510,765,1242,-7038,8280,9180,-27710,3519,20196,50370,-68850,-153765,
244782,52785,-71010,-130525,-343620,517293,54978,498780,-390150,-1835865,
1161270,896751,793730,-633420

A010825 Expansion of Product_{k>=1} (1 - x^k)^19.

$$\frac{e^{\frac{19\pi}{24}} \pi^{19/4} 2^{7/8}}{256 \Gamma\left(\frac{3}{4}\right)^{19}}$$

0.41625775933855010910881556609652

1,-19,152,-627,1140,988,-9063,14212,7410,-44270,22781,38114,36176,-137256,
-154850,480605,-46493,-316065,-153406,-254525,1156948,-184927,88483,-1051042,
-2381650,3838874,1417039,-542146

A010826 Expansion of Product_{k>=1} (1 - x^k)^20.

$$\frac{e^{\frac{5\pi}{6}} \pi^5 \sqrt{2}}{256 \Gamma\left(\frac{3}{4}\right)^{20}}$$

0.39749235587054872059020735440297

1,-20,170,-760,1615,476,-11210,22440,1615,-64600,60002,51680,-9520,-213180,-83980,
803528,-379525,-692360,119700,80920,1899830,-1235360,-755990,-1200040,
-1981435,8388956,-361760,-5068440

A010827 Expansion of Product_{k>=1} (1 - x^k)^21.

$$\frac{e^{\frac{7\pi}{8}} \pi^{21/4} 2^{1/8}}{256 \Gamma\left(\frac{3}{4}\right)^{21}}$$

0.37957291949725433136391092762121

1,-21,189,-910,2205,-378,-13321,33345,-10395,-86870,122703,46683,-98287,-264915,
96390,1163064,-1113588,-1066527,1042055,536025,2287467,-3603805,-1391733,
478170,-562555,13742379,-7889805

A010828 Expansion of Product_{k>=1} (1 - x^k)^22.

$$\frac{e^{\frac{11\pi}{12}} \pi^{11/2} 2^{3/4}}{512 \Gamma\left(\frac{3}{4}\right)^{22}}$$

0.36246131299840693800372049829736

1,-22,209,-1078,2926,-1672,-15169,47234,-31350,-107426,218680,-266,-234707,
-237006,405878,1444806,-2415413,-1091398,3018169,523050,1618309,-7344304,
-134905,5365866,5852,17297588,-24278276

A010829 Expansion of Product_{k>=1} (1 - x^k)^23.

$$\frac{e^{\frac{23\pi}{24}} \pi^{23/4} 2^{3/8}}{512 \Gamma\left(\frac{3}{4}\right)^{23}}$$

0.34612111842578236462790792272541

1,-23,230,-1265,3795,-3519,-16445,64285,-64515,-120175,354706,-123763,-407560,
-48530,817190,1464341,-4376693,-135355,6303955,-1282710,-682088,-11372603,
5678585,13479425,-5451115,16579596

A010830 Expansion of Product_{k>=1} (1-x^k)^25.

$$\frac{e^{\frac{25\pi}{24}} \pi^{25/4} 2^{5/8}}{1024 \Gamma\left(\frac{3}{4}\right)^{25}}$$

0.31561742807940501981454351706777

1,-25,275,-1700,6050,-9405,-15550,107525,-182875,-81675,756655,-801550,-662975,
1220175,1361350,-209440,-9601900,8608900,14889050,-19948500,-6262465,
-7057550,38788925,19716425,-69119875,23579969,-82427400,98068850,191984400

A010831 Expansion of Product_{k>=1} (1-x^k)^26.

$$\frac{e^{\frac{13\pi}{12}} \pi^{13/2} 2^{1/4}}{1024 \Gamma\left(\frac{3}{4}\right)^{26}}$$

0.30138901252060719776842080168213

1,-26,299,-1950,7475,-13754,-12220,132756,-276575,0,1010100,-1486030,-519961,
2486300,829725,-2215486,-11643060,18523050,16317925,-42861650,0,11010090,
59644221,-5743400,-138219900

A010832 Expansion of Product_{k>=1} (1-x^k)^27.

$$\frac{e^{\frac{9\pi}{8}} \pi^{27/4} 2^{7/8}}{2048 \Gamma\left(\frac{3}{4}\right)^{27}}$$

0.28780203115175818565946404429064

1,-27,324,-2223,9126,-19278,-5967,159030,-399087,151593,1270971,-2500875,74970,
4203522,-1004157,-4796037,-11750778,32885190,10452375,-77533092,27104868,
43070625,63798840,-69960267,-215939061,236414349,-37046646,237487433,

A010833 Expansion of Product_{k>=1} (1-x^k)^28.

$$\frac{e^{\frac{7\pi}{6}} \pi^7 \sqrt{2}}{2048 \Gamma\left(\frac{3}{4}\right)^{28}}$$

0.27482756734343181504637005922754

1,-28,350,-2520,11025,-26180,4158,184600,-554400,401100,1496964,-3920280,
1444625,6224400,-4972350,-7121296,-8308965,50796900,-8971200,-121968000,
94011435,80598288,20282500,-175228200

A010834 Expansion of Product_{k>=1} (1-x^k)^29.

$$\frac{e^{\frac{29\pi}{24}} \pi^{29/4} 2^{1/8}}{2048 \Gamma\left(\frac{3}{4}\right)^{29}}$$

0.26243800806284592719020759338079

1,-29,377,-2842,13195,-34684,19285,206973,-745706,782275,1621564,-5803161,
4026360,8149841,-12056025,-7428263,254504,69194580,-49156653,-167517050,
224634319,94868280,-112333182,-288914501,-172722550,1061590530,-420678727,
-212254364

A010835 Expansion of Product_{k>=1} (1-x^k)^30.

$$\frac{e^{\frac{5\pi}{4}} \pi^{15/2} 2^{3/4}}{4096 \Gamma\left(\frac{3}{4}\right)^{30}}$$

0.25060698510614829308978567529888

1,-30,405,-3190,15660,-45036,40745,222750,-974835,1334580,1547469,-8174520,
8380245,9200250,-23243355,-2643380,14704740,82050570,-116275500,-195804810,
442809990,25147930,-371898000,-313802910,125394405,1688931000,-1364323095,
-737497840,158838945,-1653918750,6309965146,-1076120370

A010836 Expansion of Product_{k>=1} (1-x^k)^31.

$$\frac{e^{\frac{31\pi}{24}} \pi^{31/4} 2^{3/8}}{4096 \Gamma\left(\frac{3}{4}\right)^{31}}$$

0.23930931898002219390022906285200

1,-31,434,-3565,18445,-57505,70091,227447,-1241550,2102730,1139498,-11000164,
15185009,8060465,-39266925,11975548,33735905,79961555,-212042635,
-176681400,762467041,-231771190,-762218948,-59474275,687626655,2193123086,
-3317871844

A010837 Expansion of Product_{k>=1} (1-x^k)^32.

$$\frac{e^{\frac{4\pi}{3}} \pi^8}{4096 \Gamma\left(\frac{3}{4}\right)^{32}}$$

0.22852096531317712573524151049795

1,-32,464,-3968,21576,-72384,109120,215296,-1542684,3135712,217248,-14153856,
25215616,2704192,-60182656,43083520,52111434,50631680,-328746320,-68928128,
1172526144,-825260672,-1202344640

A010838 Expansion of Product_{k>=1} (1-x^k)^44.

$$\frac{e^{\frac{11\pi}{6}} \pi^{11} \sqrt{2}}{131072 \Gamma\left(\frac{3}{4}\right)^{44}}$$

0.13137820342052912231427879924236

1,-44,902,-11352,96965,-582692,2428382,-6245448,3684670,43828180,-195750104,
340202584,211248851,-2418539816,4734800950,-43313600,-16560186918,
26632794760,4021681554,-50231748600,12519655368

A010839 Expansion of Product_{k >= 1} (1-x^k)^48.

$$\frac{e^{2\pi} \pi^{12}}{262144 \Gamma\left(\frac{3}{4}\right)^{48}}$$

0.10924185720151259307844968747852

1,-48,1080,-15040,143820,-985824,4857920,-16295040,28412910,38671600,
-424520544,1268350272,-1211937160,-4306546080,18293091840,-23522231424,
-26299018683,137218594320,-150999182320,-134713340160

A010840 Expansion of $\text{Product}_{\{k \geq 1\}} (1-x^k)^{40}$.

$$\frac{e^{\frac{5\pi}{3}} \pi^{10}}{32768 \Gamma\left(\frac{3}{4}\right)^{40}}$$

0.15800017297551894793713209740118

1,-40,740,-8320,62530,-322048,1085240,-1799680,-2821065,26012480,-66837420,
35093760,268749870,-783902720,526221400,1691816960,-3960854625,1042577120,
5103133240,-380798080,-10159511430

A010841 Expansion of $\text{Product}_{\{k \geq 1\}} (1-x^k)^{64}$.

$$\frac{e^{\frac{8\pi}{3}} \pi^{16}}{16777216 \Gamma\left(\frac{3}{4}\right)^{64}}$$

0.052221831587666303075967361057886

1,-64,1952,-37632,512400,-5207936,40618368,-244952576,1124362248,-3684692800,
6607738816,8603838208,-109557823168,389162471040,-599467398400,
-815811136000,6834665221028,-15689583552384,5284986829472,66706108652800,
-183175485196256,124242038746624

A014103 Expansion of $(\eta(q^2) / \eta(q))^{24}$ in powers of q .

$$\frac{e^{\pi}}{8}$$

2.8925865790974086257161357959936

1,24,300,2624,18126,105504,538296,2471424,10400997,40674128,149343012,
519045888,1718732998,5451292992,16633756008,49010118656,139877936370,
387749049720,1046413709980,2754808758144,7087483527072,17848133716832,
44056043512488,106727749011456

A014452 Theta series of quadratic form with Gram matrix $\begin{bmatrix} 1, & 0, & 0; & 0, & 2, & 1; & 0, & 1, & 2 \end{bmatrix}$.

$$\frac{4 \pi^{7/4} 2^{3/4} \sqrt{4}}{3 \Gamma\left(\frac{2}{3}\right)^2 \sqrt{\Gamma\left(\frac{11}{12}\right)} \Gamma\left(\frac{7}{12}\right)^{5/2} (\sqrt{3}-1) (\sqrt{2} (1+\sqrt{3}))^{3/2}}$$

1.0986079824945009428624753765291

1,2,6,12,2,0,18,12,6,14,12,12,12,0,12,36,2,12,42,12,0,0,24,24,18,14,12,48,12,0,48,12,6,

36,12,24,14,0,24,48,12,12,72,36,12,0,24,24,12,14,30,72,0,0,54,24,12,48,36,12,36,0,
36,84,2,24,48,36,12,0,24,24,42,24,36,60,12

A014455 Theta series of quadratic form with Gram matrix $\begin{bmatrix} 1, & 0, & 0; & 0, & 1, & 0; & 0, & 0, & 2 \end{bmatrix}$.

Number of integer solutions to $x^2 + y^2 + 2z^2 = n$.

$$\frac{2^{3/4} \Gamma\left(\frac{5}{8}\right)^3 (2 + \sqrt{2})^2}{16 \pi^{3/4} \Gamma\left(\frac{7}{8}\right)^3}$$

1.1847490359899507094893357120146

1,4,6,8,12,8,8,16,6,12,24,8,24,24,0,16,12,16,30,24,24,16,24,16,8,28,24,32,48,8,0,32,6,
32,48,16,36,40,24,16,24,16,48,40,24,40,0,32,24,36,30,16,72,24,32,48,0,32,72,24,48,
40,0,48,12,16,48,56,48,32,48,16,30,64

A014705 Expansion of $((\theta_2)^4 + (\theta_3)^4) / \eta(z/2)^4$.

$$3 e^{-\frac{\pi}{6}} \sqrt{2}$$

2.5132760551143993693064834599412

1,28,134,568,1809,5316,13990,34696,80724,180068,384940,796760,1598789,3127360,
5971922,11170160,20491033,36947444,65553412,114619248,197681341,336670120,
566630192,943234040,1553941445,2535325644,4098671374,6568931200,
10441889389

A014787 Expansion of Jacobi theta constant $(\theta_2/2)^{12}$.

$$\frac{e^{\frac{3\pi}{2}} \pi^3 \sqrt{2}}{256 \Gamma\left(\frac{3}{4}\right)^{12}}$$

1.6629670169620917361542055550046

1,12,66,232,627,1452,2982,5544,9669,16016,25158,38160,56266,80124,111816,153528,
205260,270876,353870,452496,574299,724044,895884,1103520,1353330,1633500,
1966482,2360072,2792703,3299340,3892922,4533936,5273841,6134448

A014969 Expansion of $(\theta_3(q) / \theta_4(q))^2$ in powers of q .

$$\sqrt{2}$$

1.4142135623730950488016887242097

1,8,32,96,256,624,1408,3008,6144,12072,22976,42528,76800,135728,235264,400704,

671744,1109904,1809568,2914272,4640256,7310592,11404416,17626944,27009024,
41047992,61905088,92681664

A014972 Expansion of $(\theta_3(q) / \theta_4(q))^4$ in powers of q ; also of $1 / (1 - \lambda(z))$.

2

2.

1,16,128,704,3072,11488,38400,117632,335872,904784,2320128,5702208,13504512,
30952544,68901888,149403264,316342272,655445792,1331327616,2655115712,
5206288384,10049485312,19115905536,35867019904,66437873664

A015128 Number of overpartitions of n : an overpartition of n is an ordered sequence of nonincreasing integers that sum to n , where the first occurrence of each integer may be overlined.

$$\frac{2^{1/4} \Gamma\left(\frac{3}{4}\right)}{\pi^{1/4}}$$

1.0945959230399098318395297447143

1,2,4,8,14,24,40,64,100,154,232,344,504,728,1040,1472,2062,2864,3948,5400,7336,
9904,13288,17728,23528,31066,40824,53408,69568,90248,116624,150144,192612,
246256,313808,398640,504886,637592,802936,1008448

A022065 Theta series of D^*_{12} lattice.

$$\frac{9 \pi^3}{8 \Gamma\left(\frac{3}{4}\right)^{12}}$$

3.0422618732990287192520357269512

1,24,264,5856,7944,75024,64416,403392,253704,1423032,825264,3865248,1938336,
8911056,4437312,18305856,8118024,34076592,15653352,59426400,24832944,
98427648,42517728,154472256,61903776,234450024,98021616,345796800,
133522752,492267600

A022567 Expansion of $\text{Product}_{m \geq 1} (1 + x^m)^2$.

$$\frac{e^{\frac{\pi}{12}} 2^{3/4}}{2}$$

1.0925480106085712638382793455681

1,2,3,6,9,14,22,32,46,66,93,128,176,238,319,426,562,736,960,1242,1598,2048,2608,
3306,4175,5248,6570,8198,10190,12622,15589,19190,23552,28830,35190,42842,
52034,63040,76198,91904,110604,132832,159216,190464,227417

A022568 Expansion of Product_{m>=1} (1+x^m)^3.

$$\frac{e^{\frac{\pi}{8}} 2^{5/8}}{2}$$

1.1419860422814232109306887033905

1,3,6,13,24,42,73,120,192,302,465,702,1046,1536,2226,3195,4536,6378,8896,12306,
16896,23045,31224,42048,56310,75000,99384,131072,172071,224910,292774,
379608,490338,631104,809472,1034814,1318707,1675344,2122176,2680602,
3376728,4242432,5316562,6646272

A022569 Expansion of Product_{m>=1} (1+x^m)^4.

$$\frac{e^{\frac{\pi}{6}} \sqrt{2}}{2}$$

1.1936611554847467468697531048188

1,4,10,24,51,100,190,344,601,1024,1702,2768,4422,6948,10752,16424,24782,36972,
54602,79872,115805,166540,237664,336720,473856,662596,920934,1272728,
1749407,2392268,3255410,4409344,5945730,7983388,10675712,14220240,18870672,
24951740,32878114

A022570 Expansion of Product_{m>=1} (1+x^m)^5.

$$\frac{e^{\frac{5\pi}{24}} 2^{3/8}}{2}$$

1.2476745786373246781070146279040

1,5,15,40,95,206,425,835,1575,2880,5121,8885,15095,25165,41240,66562,105945,
166480,258560,397235,604162,910325,1359680,2014235,2961000,4321283,6263360,
9019555,12908945,18367805,25990149,36581200,51228175,71393555,99037095,
136775685,188091960

A022571 Expansion of Product_{m>=1} (1+x^m)^6.

$$\frac{e^{\frac{\pi}{4}} 2^{1/4}}{2}$$

1.3041321207655885216345356810886

1,6,21,62,162,384,855,1806,3648,7110,13434,24702,44361,78006,134592,228302,
381300,627840,1020394,1638528,2601849,4088780,6363354,9813504,15005458,
22760262,34261248,51204222,76005906,112092438,164296989,239404860,
346898496,499971968,716906394

A022572 Expansion of Product_{m>=1} (1+x^m)^7.

$$\frac{e^{\frac{7\pi}{24}} 2^{1/8}}{2}$$

1.3631443787770964839699187263160

1,7,28,91,259,665,1589,3585,7707,15925,31808,61677,116536,215180,389194,690935,
1206016,2072700,3511851,5872545,9701097,15844866,25606840,40974528,
64956836,102076289,159084401,245995792,377574402,575459136,871189669,
1310492547,1959326215,2912370944

A022573 Expansion of Product_{m>=1} (1+x^m)^8.

$$\frac{e^{\frac{\pi}{3}}}{2}$$

1.4248269541131807487370636599264

1,8,36,128,394,1088,2776,6656,15155,33056,69508,141568,280382,541696,1023512,
1895424,3446617,6163536,10854400,18846592,32296742,54673920,91506000,
151523840,248403014,403396288,649286724,1036287744,1640796160,2578305024,
4022351720,6232177664,9592906446

A022574 Expansion of Product_{m>=1} (1+x^m)^9.

$$\frac{e^{\frac{3\pi}{8}} 2^{7/8}}{4}$$

1.4893006792051734945257553847769

1,9,45,174,576,1701,4614,11709,28125,64525,142353,303552,628251,1266273,2492352,
4801578,9071973,16837893,30744649,55296000,98070633,171683463,296919081,
507695670,858866880,1438391232,2386178649,3923081006,6395198049,
10341173376,16593811467

A022575 Expansion of Product_{m>=1} (1+x^m)^10.

$$\frac{e^{\frac{5\pi}{12}} 2^{3/4}}{4}$$

1.5566918541778256820184933747439

1,10,55,230,815,2562,7360,19700,49755,119700,276278,615130,1326965,2783360,
5693305,11384326,22299655,42865280,80983060,150571340,275840009,498410280,
889056835,1566896280,2730474975,4707724814,8035618655,13586253440,
22765030080,37820087380

A022576 Expansion of Product_{m>=1} (1+x^m)^11.

$$\frac{e^{\frac{11\pi}{24}} 2^{5/8}}{4}$$

1.6271324942636062797279602078006

1,11,66,297,1122,3740,11341,31922,84535,212707,512369,1188353,2666048,5807296,
12319659,25518757,51725289,102786959,200568907,384847199,727019260,
1353654049,2486522369,4509972819,8083287432,14326409152,25124415635,
43622744968,75026666913,127882738709

A022577 Expansion of Product_{m>=1} (1+x^m)^12.

$$\frac{e^{\frac{\pi}{2}} \sqrt{2}}{4}$$

1.7007605884125515641199515504459

1,12,78,376,1509,5316,16966,50088,138738,364284,913824,2203368,5130999,
11585208,25444278,54504160,114133296,234091152,471062830,931388232,
1811754522,3471186596,6556994502,12222818640,22502406793,40944396120,
73680871326,131211105208,231355524048,404110659732

A022578 Expansion of Product_{m>=1} (1+x^m)^13.

$$\frac{e^{\frac{13\pi}{24}} 2^{3/8}}{4}$$

1.7777203696042655348066209574245

1,13,91,468,1989,7384,24739,76427,220948,604175,1575392,3941847,9511944,
22226049,50458447,111609537,241099027,509680951,1056262792,2149214288,
4299359012,8465605408,16424772637,31429372312,59365381608,110770031489,
204315725953,372772306309,673125106316

A022579 Expansion of Product_{m>=1} (1+x^m)^14.

$$\frac{e^{\frac{7\pi}{12}} 2^{1/4}}{4}$$

1.8581625973915962911782026111877

1,14,105,574,2576,10052,35273,113794,342699,974176,2635955,6833540,17061345,
41197422,96544003,220212384,490104727,1066552228,2273590095,4755188704,
9771319068,19751596934,39317784863,77150246040,149357609184,285497384004,
539227765104,1006978117880

A022580 Expansion of Product_{m>=1} (1+x^m)^15.

$$\frac{e^{\frac{5\pi}{8}} 2^{1/8}}{4}$$

1.9422448532294743296456804165979

1,15,120,695,3285,13443,49305,165795,519240,1531960,4295046,11520000,29718605,
74060355,178930605,420368858,962785560,2154411120,4718952965,10134292275,
21369644184,44300604895,90390209685,181706747280,360207189225,
704726281002,1361748557400

A022581 Expansion of Product_{m>=1} (1+x^m)^16.

$$\frac{e^{\frac{2\pi}{3}}}{4}$$

2.0301318491674440789617494048389

1,16,136,832,4132,17696,67712,236928,770442,2355824,6834240,18940480,50424536,
129535968,322288128,779022208,1834203955,4216133616,9479688992,
20884408704,45148577668,95902505120,200394848512,412350614016,
836328261438,1673337795840,3305364030464,6450386567104,12443955363352,
23745951691328,44844655553536,83856163515776,155331420821337

A022582 Expansion of Product_{m>=1} (1+x^m)^17.

$$\frac{e^{\frac{17\pi}{24}} 2^{7/8}}{8}$$

2.1219957505105986572137267103669

1,17,153,986,5134,22967,91528,332741,1121864,3550518,10644516,30446116,

83554915,221028152,565733446,1405559677,3398860779,8018057345,18489507853,
41750241112,92455892640,201066321781,429927351485,904832464581,
1876192580514,3836193955660,7740691696577

A022583 Expansion of Product_{m>=1} (1+x^m)^18.

$$\frac{e^{\frac{3\pi}{4}} 2^{3/4}}{8}$$

2.2180165130809910904621167179280

1,18,171,1158,6309,29430,121962,460008,1605996,5254334,16260867,47949804,
135509922,368764290,970099191,2475106170,6141671649,14856839874,
35107961175,81189855828,184033842021,409446105486,895231350108,
1925717858910,4079428991751,8518121246538

A022584 Expansion of Product_{m>=1} (1+x^m)^19.

$$\frac{e^{\frac{19\pi}{24}} 2^{5/8}}{8}$$

2.3183822357401966825952223908380

1,19,190,1349,7676,37278,160417,626924,2263698,7647652,24405633,74120672,
215505334,602763220,1628328880,4262845643,10845598563,26882001287,
65048680364,153950675585,356936640088,811869015895,1813912504439,
3985419541978,8619872682020,18369414409148

A022585 Expansion of Product_{m>=1} (1+x^m)^20.

$$\frac{e^{\frac{5\pi}{6}} \sqrt{2}}{8}$$

2.4232895288635968972919878008190

1,20,210,1560,9255,46724,208510,843320,3145855,10963160,36042250,112633760,
336622160,966897820,2680139300,7193849624,18752326235,47590579080,
117840608100,285228791880,675978772326,1570897356960,3584273539170,
8038904002760,17741382028085,38563932406500

A022586 Expansion of Product_{m>=1} (1+x^m)^21.

$$\frac{e^{\frac{7\pi}{8}} 2^{3/8}}{8}$$

2.5329438994882035698426390369661

1,21,231,1792,11067,58002,268093,1120899,4315269,15497986,52441347,168487473,
517184185,1524390777,4332440454,11914441196,31798680774,82574231187,
209091601271,517272712845,1252351944165,2971700764941,6920411525727,
15835150526244,35640093688017

A022587 Expansion of Product_{m>=1} (1 + x^m)^22.

$$\frac{e^{\frac{11\pi}{12}} 2^{1/4}}{8}$$

2.6475601538885047228051233396149

1,22,253,2046,13134,71368,341275,1473494,5848810,21628002,75261384,248403586,
782547909,2365168542,6887441198,19393122562,52959869787,140631776582,
363943223941,919706094494,2273411319069,5505315501136,13078268135683,
30514651732686,70005101272876

A022588 Expansion of Product_{m>=1} (1 + x^m)^23.

$$\frac{e^{\frac{23\pi}{24}} 2^{1/8}}{8}$$

2.7673628183689536988494669475094

1,23,276,2323,15479,87101,430445,1917349,7839849,29824583,106646308,361327079,
1167406906,3615602714,10780913004,31061653709,86741652761,235404301651,
622271232287,1605432041576,4049617772390,10002785010369,24227747380447,
57613905606273,134662398395411

A022589 Expansion of Product_{m>=1} (1 + q^m)^25.

$$\frac{e^{\frac{25\pi}{24}} 2^{7/8}}{16}$$

3.0234767418411292973339812478914

1,25,325,2950,21100,126905,667850,3157725,13667175,54900675,206841715,
736953800,2499500175,8113694575,25320834800,76253908740,222308896150,
629146702350,1732518057650,4651937973250,12201443983695,31311905220800,
78732034002275,194220161393825

A022590 Expansion of Product_{m>=1} (1 + q^m)^26.

$$\frac{e^{\frac{13\pi}{12}} 2^{3/4}}{16}$$

3.1602897125059264603859539407066

1,26,351,3302,24427,151658,822484,4001660,17799041,73391968,283542740,
1034983222,3593364255,11931569028,38062054017,117095671862,348538604492,
1006539781078,2827014674081,7738495452714,20683325376064,54066855041446,
138427417637249,347584258977384

A022591 Expansion of Product_{m>=1} (1+q^m)^27.

$$\frac{e^{\frac{9\pi}{8}} 2^{5/8}}{16}$$

3.3032934994198106119228386240766

1,27,378,3681,28134,180144,1005957,5032422,22986801,97229361,384953553,
1438738443,5110502256,17348445108,56541857409,177611637141,539501563962,
1589134470966,4550281700055,12692702415312,34556103662778,91975719684573,
239686155975618

A022592 Expansion of Product_{m>=1} (1+q^m)^28.

$$\frac{e^{\frac{7\pi}{6}} \sqrt{2}}{16}$$

3.4527682383450835719358619628579

1,28,406,4088,32249,212772,1222438,6283400,29454432,127721972,517920340,
1980864312,7194850761,24957519216,83064794746,266299577040,825106028411,
2477872472348,7230302637376,20543975496576,56949757063171,
154281017250160,409072030569524

A022593 Expansion of Product_{m>=1} (1+q^m)^29.

$$\frac{e^{\frac{29\pi}{24}} 2^{3/8}}{16}$$

3.6090067412473397384038662365181

1,29,435,4524,36801,249980,1476535,7792619,37464346,166445529,690898842,
2702690003,10033022642,35545708813,120756549637,394935306099,
1247670362782,3818503661392,11350088407317,32837741707782,92652254354675,
255382893501050,688721602753864

A022594 Expansion of Product_{m>=1} (1+q^m)^30.

$$\frac{e^{\frac{5\pi}{4}} 2^{1/4}}{16}$$

3.7723150698963822803525546736069

1,30,465,4990,41820,292236,1773325,9603210,47322525,215286380,914269641,
3656192760,13865226845,50148901590,173821904265,579696375972,
1866529110420,5819476726230,17613901516660,51870170192610,
148909462006422,417468856858550,1144709400114480

A022595 Expansion of Product_{m>=1} (1+q^m)^31.

$$\frac{e^{\frac{31\pi}{24}} 2^{1/8}}{16}$$

3.9430131354227037427088281822081

1,31,496,5487,47337,340039,2118385,11763911,59384158,276491170,1200703594,
4906332242,18998567031,70120824201,247873586247,842625902072,
2764160465375,8776228494225,27038961793349,81019542614568,
236575764828149,674366427736330,1879524499776454

A022596 Expansion of Product_{m>=1} (1+q^m)^32.

$$\frac{e^{\frac{4\pi}{3}}}{16}$$

4.1214353250040259162814741586198

1,32,528,6016,53384,393920,2517824,14329600,74059812,352722720,1565583648,
6533812352,25823152256,97218393280,350348856704,1213526698240,
4054279504266,13103911398400,41081428394096,125210147216000,
371754750363712,1077136199182976,3050503922469440

A022597 Expansion of Product_{m>=1} (1+q^m)^(-2).

$$e^{-\frac{\pi}{12}} 2^{1/4}$$

0.91529158470846497950550287487841

1,-2,1,-2,4,-4,5,-6,9,-12,13,-16,21,-26,29,-36,46,-54,62,-74,90,-106,122,-142,171,-200,
227,-264,311,-358,408,-470,545,-626,709,-810,933,-1062,1198,-1362,1555,-1760,
1980,-2238,2536,-2858,3205,-3602,4063,-4560,5092,-5704,6400,-7150,7966

A022598 Expansion of Product_{m>=1} (1+q^m)^(-3).

$$e^{-\frac{\pi}{8}} 2^{3/8}$$

0.87566744511363025563901731087088

1,-3,3,-4,9,-12,15,-21,30,-43,54,-69,94,-123,153,-193,252,-318,391,-486,609,-754,918,
-1119,1376,-1680,2019,-2432,2946,-3540,4220,-5034,6015,-7157,8463,-9999,11835,
-13956,16374,-19206,22542,-26376,30750,-35829,41745

A022599 Expansion of Product_{m>=1} (1+q^m)^(-4).

$$e^{-\frac{\pi}{6}} \sqrt{2}$$

0.83775868503813312310216115331373

1,-4,6,-8,17,-28,38,-56,84,-124,172,-232,325,-448,594,-784,1049,-1388,1796,-2320,
3005,-3864,4912,-6216,7877,-9940,12430,-15488,19309,-23972,29580,-36408,44766,
-54876,66978,-81536,99150,-120272,145374,-175344,211242

A022600 Expansion of Product_{m>=1} (1+q^m)^(-5).

$$e^{-\frac{5\pi}{24}} 2^{5/8}$$

0.80149104351566741523022520928780

1,-5,10,-15,30,-56,85,-130,205,-315,465,-665,960,-1380,1925,-2651,3660,-5020,6775,
-9070,12126,-16115,21220,-27765,36235,-47101,60810,-78115,100105,-127825,
162391,-205530,259475,-326565

A022601 Expansion of Product_{m>=1} (1+q^m)^(-6).

$$e^{-\frac{\pi}{4}} 2^{3/4}$$

0.76679347443183265627314209683867

1,-6,15,-26,51,-102,172,-276,453,-728,1128,-1698,2539,-3780,5505,-7882,11238,-15918,
22259,-30810,42438,-58110,78909,-106392,142770,-190698,253179,-334266,439581,
-575784,750613,-974316,1260336,-1624702,2086530,-2670162

A022602 Expansion of Product_{m>=1} (1+q^m)^(-7).

$$e^{-\frac{7\pi}{24}} 2^{7/8}$$

0.73359800734909649302142998467431

1,-7,21,-42,84,-175,322,-547,931,-1561,2527,-3976,6167,-9485,14336,-21280,31304,
-45696,65940,-94122,133371,-187734,262143,-363265,500381,-685503,933506,
-1263794,1702590,-2283379,3047597

A022604 Expansion of Product_{m \geq 1} (1+q^m)^{(-9)}.

$$2 e^{-\frac{3\pi}{8}} 2^{1/8}$$

0.67145608268552666730828499093504

1,-9,36,-93,207,-459,957,-1827,3357,-6061,10620,-18045,30006,-49122,79128,-125247,
195435,-301599,460167,-694026,1036368,-1534305,2252277,-3278709,4736973,
-6797196,9689103,-13722487

A022605 Expansion of Product_{m \geq 1} (1+q^m)^{(-10)}.

$$2 e^{-\frac{5\pi}{12}} 2^{1/4}$$

0.64238789283583347821388745936422

1,-10,45,-130,310,-712,1555,-3130,5990,-11190,20316,-35750,61405,-103570,171730,
-279782,448785,-710830,1112515,-1720550,2632389,-3989480,5992085,-8921670,
13176300,-19316144,28118360,-40654520

A022606 Expansion of Product_{m \geq 1} (1+q^m)^{(-11)}.

$$2 e^{-\frac{11\pi}{24}} 2^{3/8}$$

0.61457810198337379705348807978702

1,-11,55,-176,451,-1078,2453,-5181,10329,-19954,37455,-68135,120725,-209583,
357258,-598136,985072,-1599807,2565365,-4063191,6362323,-9860851,15138013,
-23027730,34729959,-51965067,77174735

A022608 Expansion of Product_{m \geq 1} (1+q^m)^{(-13)}.

$$2 e^{-\frac{13\pi}{24}} 2^{5/8}$$

0.56251816489148280679536341014188

1,-13,78,-299,884,-2314,5681,-13052,28158,-58136,116129,-224692,422214,-774372,
1390948,-2450565,4240561,-7221383,12121980,-20076953,32836752,-53089309,
84922877,-134488770,210979548

A022609 Expansion of Product_{m \geq 1} (1+q^m)^{(-14)}.

$$2 e^{-\frac{7\pi}{12}} 2^{3/4}$$

0.53816603638656503218428925153404

1,-14,91,-378,1197,-3290,8386,-20008,44800,-95578,196679,-391692,756798,-1424934,
2624119,-4735878,8388919,-14611226,25065397,-42400456,70790195,-116765126,
190454404,-307408346,491306907

A022610 Expansion of Product_{m>=1} (1+q^m)^(-15).

$$2 e^{-\frac{5\pi}{8}} 2^{7/8}$$

0.51486814257082290650181159304354

1,-15,105,-470,1590,-4593,12160,-30075,69780,-153750,325728,-667020,1323915,
-2557140,4824630,-8912759,16148505,-28746945,50364835,-86956260,148098384,
-249060745,413975085,-680602545

A022611 Expansion of Product_{m>=1} (1+q^m)^(-16).

$$4 e^{-\frac{2\pi}{3}}$$

0.49257884428053253456613459891468

1,-16,120,-576,2076,-6304,17344,-44416,106630,-242480,528608,-1112128,2265656,
-4486112,8666112,-16376192,30328593,-55145872,98613424,-173670400,
301550788,-516747872,874774016,-1464096000

A022612 Expansion of Product_{m>=1} (1+q^m)^(-17).

$$4 e^{-\frac{17\pi}{24}} 2^{1/8}$$

0.47125447812955237835000141458672

1,-17,136,-697,2669,-8517,24361,-64549,160140,-375564,842078,-1818932,3800537,
-7709449,15239497,-29440226,55697542,-103382254,188589925,-338602243,
599066162,-1045509435,1801660255,-3068201310

A022613 Expansion of Product_{m>=1} (1+q^m)^(-18).

$$4 e^{-\frac{3\pi}{4}} 2^{1/4}$$

0.45085327097539282474462386389612

1,-18,153,-834,3384,-11340,33729,-92430,236727,-572120,1318743,-2922948,6259641,
-13000770,26283159,-51879720,100210041,-189775800,352975681,-645780060,
1163610432,-2067225594,3624593265,-6277838652

A022614 Expansion of Product_{m>=1} (1+q^m)^(-19).

$$4 e^{-\frac{19\pi}{24}} 2^3 / 8$$

0.43133525808815864778086987966032

1,-19,171,-988,4237,-14896,46075,-130549,344888,-858325,2032924,-4621313,
10137716,-21545639,44525987,-89757843,176925625,-341688495,647687314,
-1206921212,2213842874,-4001882220,7136374179

A022615 Expansion of Product_{m>=1} (1+q^m)^(-20).

$$4 e^{-\frac{5\pi}{6}} \sqrt{2}$$

0.41266220486206227696431178359552

1,-20,190,-1160,5245,-19324,62150,-182040,495750,-1269620,3088376,-7197240,
16164595,-35136760,74192590,-152674048,306968470,-604298520,1166898210,
-2213813640,4132159452,-7597272900

A022616 Expansion of Product_{m>=1} (1+q^m)^(-21).

$$4 e^{-\frac{7\pi}{8}} 2^5 / 8$$

0.39479753191614546515207858660086

1,-21,210,-1351,6426,-24780,82845,-250806,703731,-1853481,4628337,-11052867,
25403952,-56451192,121738767,-255623851,524037507,-1051143723,2066899387,
-3990768663,7577013360,-14163858895

A022617 Expansion of Product_{m>=1} (1+q^m)^(-22).

$$4 e^{-\frac{11\pi}{12}} 2^3 / 4$$

0.37770624343748620349960822373465

1,-22,231,-1562,7799,-31438,109208,-341660,987327,-2672868,6848490,-16752958,
39388481,-89439944,196910681,-421739450,881199561,-1800336692,3603535166,
-7078509064,13665905671

A022618 Expansion of Product_{m>=1} (1+q^m)^(-23).

$$4 e^{-\frac{23\pi}{24}} 2^7 / 8$$

0.36135485862651956333125792453081

1,-23,253,-1794,9384,-39491,142462,-460483,1370041,-3810479,10013533,-25082512,
60303171,-139870107,314254704,-686285914,1461009887,-3039222369,6190256915,
-12366732828,24269855093

A022620 Expansion of Product_{m>=1} (1+q^m)^(-25).

$$8 e^{-\frac{25\pi}{24}} 2^{1/8}$$

0.33074506119437041803950645362190

1,-25,300,-2325,13275,-60655,235525,-811975,2558575,-7502175,20713560,-54345175,
136483700,-329961200,771284950,-1749490965,3862641850,-8322360350,
17536187475,-36204137625,73353404555,-146061623800,286183499350,
-552361219950,1051231017350

A022621 Expansion of Product_{m>=1} (1+q^m)^(-26).

$$8 e^{-\frac{13\pi}{12}} 2^{1/4}$$

0.31642668583288144022693069318336

1,-26,325,-2626,15626,-74256,298831,-1063426,3447132,-10372882,29340142,
-78744042,202029633,-498419898,1187802148,-2744629914,6168519890,
-13520237380,28964225680,-60763817556,125042511217,-252773944748,
502601225828,-984061449124,1899179853506

A022622 Expansion of Product_{m>=1} (1+q^m)^(-27).

$$8 e^{-\frac{9\pi}{8}} 2^{3/8}$$

0.30272817119509352481073796893399

1,-27,351,-2952,18279,-90234,376065,-1380861,4603419,-14211732,41168493,
-112989411,296067411,-745157691,1809973404,-4259279106,9741879531,
-21715736634,47285714262,-100777640049,210581729640,-432065248731,
871606288422,-1730764207107,3386501241606

A022623 Expansion of Product_{m>=1} (1+q^m)^(-28).

$$8 e^{-\frac{7\pi}{6}} \sqrt{2}$$

0.28962268272002563820309526005863

1,-28,378,-3304,21259,-108892,469630,-1778536,6096125,-19303088,57249374,
-160633424,429762354,-1103189388,2730461208,-6542033848,15223719392,
-34504452668,76349114366,-165267288816,350579820199,-729912979244,

A022624 Expansion of Product_{m>=1} (1+q^m)^(-29).

$$8 e^{-\frac{29\pi}{24}} 2^{5/8}$$

0.27708454754905263295363395559840

1,-29,406,-3683,24592,-130558,582233,-2273136,8008524,-26002734,78934897,
-226364662,618201990,-1618116248,4079918534,-9950307189,23552872174,
-54265164588,121990316096,-268139308160,577310455320,-1219428331519,
2530473842822,-5165078293276,10381346324862

A022625 Expansion of Product_{m>=1} (1+q^m)^(-30).

$$8 e^{-\frac{5\pi}{4}} 2^{3/4}$$

0.26508920423432922288909369967593

1,-30,435,-4090,28305,-155586,716910,-2884080,10440930,-34752790,107952705,
-316326840,881621260,-2352438330,6041102175,-14993771926,36092874960,
-84513784620,192981056950,-430636738770,940848408276

A022626 Expansion of Product_{m>=1} (1+q^m)^(-31).

$$8 e^{-\frac{31\pi}{24}} 2^{7/8}$$

0.25361315462440040041613333222166

1,-31,465,-4526,32426,-184357,877052,-3633851,13513458,-46099108,146495398,
-438514468,1246964119,-3391183930,8867709030,-22393552057,54808232438,
-130404256148,302394884204,-684929956630,1518203338688

A022627 Expansion of Product_{m>=1} (1+q^m)^(-32).

$$16 e^{-\frac{4\pi}{3}}$$

0.24263391783274511924065174751370

1,-32,496,-4992,36984,-217280,1066432,-4548352,17369116,-60711456,197327712,
-603261056,1749861312,-4849210560,12909347456,-33162318080,82507571334,
-199432268416,469559849680,-1079335967872

A023003 Number of partitions of n into parts of 4 kinds.

$$\frac{2 e^{-\frac{\pi}{6}} \sqrt{2} \Gamma\left(\frac{3}{4}\right)^4}{\pi}$$

1.2026361212276243070079946924251

1,4,14,40,105,252,574,1240,2580,5180,10108,19208,35693,64960,116090,203984,
353017,602348,1014580,1688400,2778517,4524760,7296752,11658920,18468245,
29015700,45235414,70005376,107585845,164245380,249162620,375704920,
563251038

A023004 Number of partitions of n into parts of 5 kinds.

$$\frac{2 e^{-\frac{5\pi}{24}} 2^{7/8} \Gamma\left(\frac{3}{4}\right)^5}{\pi^{5/4}}$$

1.2594119351690081288015554977993

1,5,20,65,190,506,1265,2990,6765,14725,31027,63505,126730,247170,472295,885723,
1633000,2963840,5302075,9358470,16313440,28107365,47902010,80803485,
134992865,223474667,366772720,597049255,964375855,1546208695,2461649861,
3892774130

A023005 Number of partitions of n into parts of 6 kinds.

$$\frac{4 e^{-\frac{\pi}{4}} 2^{1/4} \Gamma\left(\frac{3}{4}\right)^6}{\pi^{3/2}}$$

1.3188681051979973713073890238705

1,6,27,98,315,918,2492,6372,15525,36280,81816,178794,380051,788004,1597725,
3174210,6190182,11867310,22395359,41650050,76413078,138421358,247783113,
438616728,768291650,1332444330,2289213495,3898064226,6581591157,
11023247880

A023006 Number of partitions of n into parts of 7 kinds.

$$\frac{4 e^{-\frac{7\pi}{24}} 2^{5/8} \Gamma\left(\frac{3}{4}\right)^7}{\pi^{7/4}}$$

1.3811311695050225693104696476681

1,7,35,140,490,1547,4522,12405,32305,80465,192899,447146,1006145,2204475,
4715510,9869132,20247710,40786690,80782800,157510780,302666903,573720808,

1073720305,1985506775,3630307835,6567206471,11760658378,20860415590,
36665885170,63891010155,110415782785,189320804673,322174588225

A023007 Number of partitions of n into parts of 8 kinds.

$$\frac{8 e^{-\frac{\pi}{3}} \Gamma\left(\frac{3}{4}\right)^8}{\pi^2}$$

1.4463336400814250683026285309143

1,8,44,192,726,2464,7704,22528,62337,164560,417140,1020416,2418710,5573568,
12520744,27484160,59068372,124505880,257770964,524871424,1052316364,
2079491744,4053978040,7803219968,14840711765,27907041392,51917588800,
95608651776

A023008 Number of partitions of n into parts of 9 kinds.

$$\frac{8 e^{-\frac{3\pi}{8}} 2^{3/8} \Gamma\left(\frac{3}{4}\right)^9}{\pi^9/4}$$

1.5146142847394321844198140968935

1,9,54,255,1035,3753,12483,38709,113265,315445,841842,2164185,5382276,12994290,
30543210,70066809,157199805,345552183,745377215,1579915080,3294664578,
6766656315,13700560491,27370137195,53991639855,105242612526,202837976145

A023009 Number of partitions of n into parts of 10 kinds.

$$\frac{8 e^{-\frac{5\pi}{12}} 2^{3/4} \Gamma\left(\frac{3}{4}\right)^{10}}{\pi^5/2}$$

1.5861184224461459340779562285877

1,10,65,330,1430,5512,19415,63570,195910,573430,1605340,4322110,11240645,
28341730,69488650,166096270,387890625,886698670,1987322415,4373271870,
9461022285,20144164040,42254620785,87398226990,178396331100,359618772656,
716409453320

A023010 Number of partitions of n into parts of 11 kinds.

$$\frac{16 e^{-\frac{11\pi}{24}} 2^{1/8} \Gamma\left(\frac{3}{4}\right)^{11}}{\pi^{11/4}}$$

1.6609982326000928581187188760174

1,11,77,418,1925,7854,29183,100529,325193,997150,2919411,8207563,22259237,
58454165,149104450,370410700,898202998,2130141651,4949034937,11281187225,
25262712629,55641782779,120661583781,257862888360,543532730675,
1130864017283

A023011 Number of partitions of n into parts of 13 kinds.

$$\frac{16 e^{-\frac{13\pi}{24}} 2^{7/8} \Gamma\left(\frac{3}{4}\right)^{13}}{\pi^{13/4}}$$

1.8215298485549832449614246629302

1,13,104,637,3276,14820,60697,229372,810654,2706366,8600501,26173966,76654656,
216903064,594973106,1586553501,4122693185,10461067253,25967050382,
63154957281,150708128116,353304272945,814564136529,1848834255034,
4134822087942

A023012 Number of partitions of n into parts of 14 kinds.

$$\frac{32 e^{-\frac{7\pi}{12}} 2^{1/4} \Gamma\left(\frac{3}{4}\right)^{14}}{\pi^{7/2}}$$

1.9075233073783113843013527323591

1,14,119,770,4165,19754,84602,333608,1228080,4263770,14071827,44420796,
134793918,394805110,1119974875,3086034350,8280022023,21678277754,
55486209625,139065013640,341779759755,824753397814,1956347387428

A023013 Number of partitions of n into parts of 15 kinds.

$$\frac{32 e^{-\frac{5\pi}{8}} 2^{5/8} \Gamma\left(\frac{3}{4}\right)^{15}}{\pi^{15/4}}$$

1.9975764718201149907647995414964

1,15,135,920,5220,25893,115700,475065,1817910,6551390,22414314,73265580,
229972855,696109950,2039031360,5796944357,16036186005,43259046975,
114012183695,294067720380,743368453326,1844121021245,4494803760045

A023014 Number of partitions of n into parts of 16 kinds.

$$\frac{64 e^{-\frac{2\pi}{3}} \Gamma\left(\frac{3}{4}\right)^{16}}{\pi^4}$$

2.0918809984311852308574087311184

1,16,152,1088,6460,33440,155584,663936,2636326,9845040,34861152,117809728,
381946360,1193074144,3603543040,10556065152,30068145905,83466484112,
226236086512,599785472000,1557643542308,3967888347232,9926348625408,
24413219138816

A023015 Number of partitions of n into parts of 17 kinds.

$$\frac{64 e^{-\frac{17\pi}{24}} 2^{3/8} \Gamma\left(\frac{3}{4}\right)^{17}}{\pi^{17/4}}$$

2.1906375917665069744121061346737

1,17,170,1275,7905,42619,206091,912475,3753600,14503040,53073898,185172670,
619237835,1993524975,6200890505,18693654410,54763023032,156250892610,
435071511875,1184288668525,3156320339542,8247548150893,21155326555195,
53326448236250

A023016 Number of partitions of n into parts of 18 kinds.

$$\frac{64 e^{-\frac{3\pi}{4}} 2^{3/4} \Gamma\left(\frac{3}{4}\right)^{18}}{\pi^9/2}$$

2.2940564315367417536899053229153

1,18,189,1482,9576,53676,269325,1235286,5256711,20985272,79260723,285139764,
982349361,3255488082,10416507579,32281134120,97154549289,284625019800,
813310723925,2270826800172,6204926551824,16615751700618

A023017 Number of partitions of n into parts of 19 kinds.

$$\frac{128 e^{-\frac{19\pi}{24}} 2^{1/8} \Gamma\left(\frac{3}{4}\right)^{19}}{\pi^{19/4}}$$

2.4023576199253058623608580568488

1,19,209,1710,11495,66880,347681,1649637,7252300,29875505,116319938,430976031,
1527928814,5206792965,17119704425,54484060983,168297474675,505762373795,
1481733152790,4239676354650,11866652524496,32536693623850

A023018 Number of partitions of n into parts of 20 kinds.

$$\frac{128 e^{-\frac{5\pi}{6}} \sqrt{2} \Gamma\left(\frac{3}{4}\right)^{20}}{\pi^5}$$

2.5157716500230506540819341110388

1,20,230,1960,13685,82524,443870,2175800,9869990,41907380,168012824,640438680,
2334121995,8171039800,27580783270,90058003200,285253928790,878572253720,
2636748302650,7725084195240,22130265931900,62079251390180

A023019 Number of partitions of n into parts of 21 kinds.

$$\frac{128 e^{-\frac{7\pi}{8}} 2^{7/8} \Gamma\left(\frac{3}{4}\right)^{21}}{\pi^{21/4}}$$

2.6345398963774958491579351068666

1,21,252,2233,16170,100926,560945,2837418,13266099,57994475,239170239,
937026279,3507380170,12601619226,43628951025,146036139347,473924014599,
1494785958435,4591920193357,13764656869425,40328218603134

A023020 Number of partitions of n into parts of 22 kinds.

$$\frac{256 e^{-\frac{11\pi}{12}} 2^{1/4} \Gamma\left(\frac{3}{4}\right)^{22}}{\pi^{11/2}}$$

2.7589151287006321771021492367060

1,22,275,2530,18975,122430,702328,3661900,17627775,79264900,335937954,
1351507830,5191041625,19125838600,67862904725,232671319474,773027485065,
2494957906100,7839428942950,24025993453000,71941861591215

A023021 Number of partitions of n into parts of 23 kinds.

$$\frac{256 e^{-\frac{23\pi}{24}} 2^{5/8} \Gamma\left(\frac{3}{4}\right)^{23}}{\pi^{23/4}}$$

2.8891620498285971404690954846694

1,23,299,2852,22126,147407,871838,4680845,23177583,107100903,466066181,
1923780950,7576060505,28601630657,103928814438,364712523658,
1239637963457,4091266414235,13139808783725,41145568478988,

125833948024603,376417734772625,1102878148698235

A025233 Expansion of Product_{m>=1} (1 + q^m)^48.

$$\frac{e^{2\pi}}{64}$$

8.3670571175744490078601457748289

1,48,1176,19648,252204,2655456,23901760,189208704,1344644814,8713158928,
52107076128,290374290624,1519725061816,7518508799904,35352238216704,
158716136933504,683059486979301,2827559773199856

A028586 Theta series of lattice with Gram matrix [2 1; 1 3].

$$\frac{\sqrt{5} \sqrt{\pi} \sqrt{2} \sqrt{5 - \sqrt{5}} (\sqrt{5} + 1)}{20 \Gamma\left(\frac{3}{4}\right)^2}$$

1.0040576846837732841199627651406

1,0,2,4,0,0,0,4,2,0,2,0,4,0,0,4,0,0,6,0,0,0,0,4,0,0,0,8,4,0,0,0,2,0,0,4,0,0,0,0,2,0,8,4,0,0,
0,4,4,0,2,0,0,0,0,0,0,0,4,0,4,0,0,12,0,0,0,4,0,0,0,0,6,0,0,4,0,0,0,0,0,4,4,0,0,0,8,0,0,
6,0,4,0,0,0,0,0,6,0,0,0,0,4

A029552 Expansion of phi(x) / f(-x) in powers of x where phi(), f() are Ramanujan theta functions.

$$e^{-\frac{\pi}{24}} 2^{3/8}$$

1.1377248228902601159433747924343

1,3,4,7,13,19,29,43,62,90,126,174,239,325,435,580,769,1007,1313,1702,2191,2808,
3580,4539,5735,7216,9036,11278,14028,17383,21474,26448,32471,39759,48550,
59123,71829,87053,105249,126975,152858,183623

A029594 Theta series of quadratic form with Gram matrix [1, 0, 0; 0, 2, 0; 0, 0, 3].

$$\frac{\sqrt{3} \Gamma\left(\frac{2}{3}\right) \Gamma\left(\frac{5}{8}\right)^8 \Gamma\left(\frac{11}{12}\right)^2 \Gamma\left(\frac{7}{12}\right)^3 (17 + 12\sqrt{2}) (1 + \sqrt{3}) \sqrt{2} \sqrt{2 + \sqrt{2}}}{256 \pi^{15/4} \Gamma\left(\frac{7}{8}\right)^8}$$

1.0906685252637721465886329510171

1,2,2,6,6,4,12,4,2,14,0,8,18,4,12,16,6,4,14,8,12,24,12,8,12,10,0,18,12,12,36,12,2,16,12,
8,42,12,12,36,0,12,0,8,24,28,24,8,18,14,14,32,12,12,48,8,12,36,0,16,48,12,12,28,6,
16,36,16,12,32,24,24,14,8,0,42,24,8

A029595 *Theta series of quadratic form (or lattice) with Gram matrix [1, 0, 0; 0, 2, 1; 0, 1, 3].*

$$\frac{\pi^{3/4} 2^{1/5} \Gamma\left(\frac{9}{10}\right) \Gamma\left(\frac{7}{10}\right) \left(2 + \frac{2\sqrt{5}}{5}\right) \left(\frac{\sqrt{5}}{4} - \frac{1}{4}\right) \left(\frac{\sqrt{5}}{4} + \frac{1}{4}\right)}{\Gamma\left(\frac{3}{4}\right)^3 \Gamma\left(\frac{4}{5}\right)^2}$$

1.0908432211066863739387055182591

1,2,2,8,10,0,4,12,10,6,2,16,16,8,4,4,26,4,10,32,0,8,12,12,20,2,4,32,36,8,0,24,26,8,12,8,
30,16,4,24,10,8,8,56,32,0,20,12,32,14,2,48,40,8,16,0,20,16,20,32,12,16,8,36,58,4,8,
72,20,8,0,24,50,20,12,8,64

A029769 *Expansion of eta(q^2)^12 / theta_3(q)^3 in powers of q.*

$$\frac{e^{\pi^9/4}}{64 \Gamma\left(\frac{3}{4}\right)^9}$$

0.76248171623947907265134547503603

1,-6,12,-8,0,12,-48,48,-15,60,-12,-96,0,-120,240,64,96,-234,-156,0,0,444,-240,-96,-335,
420,144,384,0,-600,-480,-384,672,-264,840,120,0,-348,912,-480,-768,-168,-684,96,0,
1416,-672,768,673,510,-2328,0,0,144,1200,960,-1248,-1332,1500,-1920

A029838 *Expansion of square root of q times normalized Hauptmodul for Gamma(4) in powers of q^8.*

$$e^{-\frac{\pi}{8}} 2^{5/8}$$

1.0413499561053838330256851892107

1,1,-1,0,1,0,-1,-1,2,1,-2,-1,2,1,-3,-1,4,2,-5,-2,5,2,-6,-3,8,4,-9,-4,10,4,-12,-6,15,7,-17,-7,
19,8,-22,-10,26,12,-30,-13,33,14,-38,-17,45,21,-51,-22,56,24,-64,-29,74,33,-83,-36,
92,40,-104,-46,119,53,-133,-58,147,63,-165,-73,187,83,-208,-90,229,99,-256

A029839 *McKay-Thompson series of class 16B for the Monster group.*

$$2 e^{-\frac{\pi}{4}} 2^{1/4}$$

1.0844097310806848357799229895722

1,2,-1,-2,3,2,-4,-4,5,8,-8,-10,11,12,-15,-18,22,26,-29,-34,38,42,-51,-56,66,78,-85,-98,
109,120,-139,-156,176,202,-222,-250,279,306,-346,-384,429,482,-530,-590,650,714,
-797,-876,972,1080,-1180,-1304,1431,1562,-1728,-1892,2078,2290,-2496

A029840 Expansion of $\text{Product}_{\{m \geq 1\}} ((1+q^{(2*m-1)})/(1+q^{(2*m)}))^3$.

$$2 e^{-\frac{3\pi}{8}} 2^{7/8}$$

1.1292500258611222402209251002586

1,3,0,-5,3,9,-7,-15,9,27,-12,-45,22,66,-36,-99,51,153,-73,-222,108,311,-159,-441,221,
624,-297,-863,414,1170,-575,-1584,765,2144,-1014,-2862,1361,3774,-1809,-4964,
2361,6516,-3063,-8481

A029841 McKay-Thompson series of class 8E for the Monster group.

$$4 e^{-\frac{\pi}{2}} \sqrt{2}$$

1.1759444648624832031342809713702

1,4,2,-8,-1,20,-2,-40,3,72,2,-128,-4,220,-4,-360,5,576,8,-904,-8,1384,-10,-2088,11,3108,
12,-4552,-15,6592,-18,-9448,22,13392,26,-18816,-29,26216,-34,-36224,38,49700,42,
-67728,-51,91688

A029842 Expansion of $\text{Product}_{\{m \geq 1\}} ((1+q^{(2*m-1)})/(1+q^{(2*m)}))^5$.

$$8 e^{-\frac{5\pi}{8}} 2^{1/8}$$

1.2245697168669159647671692055538

1,5,5,-10,-10,31,20,-75,-40,150,84,-280,-165,520,290,-935,-495,1595,855,-2640,-1424,
4315,2265,-6925,-3570,10860,5605,-16740,-8615,25520,12984,-38455,-19390,57150,
28740,-83961,-42110,122320

A029843 Expansion of $\text{Product}_{\{m \geq 1\}} ((1+q^{(2*m-1)})/(1+q^{(2*m)}))^6$.

$$8 e^{-\frac{3\pi}{4}} 2^{3/4}$$

1.2752056209073452483366028625834

1,6,9,-10,-24,36,65,-102,-153,232,327,-468,-663,918,1287,-1768,-2391,3240,4289,
-5676,-7488,9758,12753,-16524,-21250,27300,34758,-44128,-55896,70380,88519,
-110874,-138285,172136,213315

A029844 Expansion of $\text{Product}_{\{m \geq 1\}} ((1+q^{(2*m-1)})/(1+q^{(2*m)}))^7$.

$$16 e^{-\frac{7\pi}{8}} 2^{3/8}$$

1.3279353173572027106592453419205

1,7,14,-7,-42,28,133,-90,-357,231,833,-511,-1792,1064,3695,-2163,-7329,4221,13923,
-7847,-25536,14161,45703,-25109,-80010,43526,136941,-73654,-229823,122493,
379582,-200935,-617729,324751

A029845 Expansion of $16/\lambda(z)$ in powers of nome $q = \exp(\pi i z)$.

$$32 e^{-\pi}$$

1.3828453844407119927813675894953

1,8,20,0,-62,0,216,0,-641,0,1636,0,-3778,0,8248,0,-17277,0,34664,0,-66878,0,125312,0,
-229252,0,409676,0,-716420,0,1230328,0,-2079227,0,3460416,0,-5677816,0,
9198424,0,-14729608,0,23328520,0,-36567242,0,56774712,0

A029862 Expansion of $q^{(5/24)} / (\eta(q) * \eta(q^2)^2)$ in powers of q .

$$\frac{2 e^{-\frac{5\pi}{24}} 2^{3/8} \Gamma\left(\frac{3}{4}\right)^3}{\pi^{3/4}}$$

1.0511390058167418716251981032541

1,1,4,5,14,18,41,54,109,145,267,357,618,826,1359,1815,2872,3824,5859,7774,11600,
15329,22362,29425,42113,55167,77648,101267,140479,182395,249789,322906,
437199,562755,754171,966713,1283630,1638716,2157763

A030189 Expansion of $\eta(q) * \eta(q^2) * \eta(q^4) * \eta(q^8)$.

$$\frac{e^{\frac{5\pi}{8}} 2^{5/16} \Gamma\left(\frac{5}{8}\right)^4 (3 + 2\sqrt{2})}{32 \pi \Gamma\left(\frac{7}{8}\right)^4 \sqrt{\sqrt{2} \sqrt{2 + \sqrt{2}}}}$$

0.95312887978373070743244856614700

1,-1,-2,1,-1,3,3,-1,-2,-2,4,-4,-1,-3,-3,2,2,8,-3,7,6,-5,-7,0,-3,-2,2,-4,1,-4,1,-2,3,1,7,-6,-3,
10,10,5,-7,-3,-4,5,-8,8,-1,-4,-1,-7,-9,2,-3,-6,2,-8,14,5,-6,9,12,4,6,3,8,-14,2,-9,-3,-5,
-10,12,6,4,-2,-5,-3,0

A030204 Expansion of $q^{(-1/8)} * \eta(q) * \eta(q^2)$ in powers of q .

$$\frac{e^{\frac{\pi}{8}} \sqrt{\pi} 2^{1/8}}{2 \Gamma\left(\frac{3}{4}\right)^2}$$

0.95313220370521885773271586161105

1,-1,-2,1,0,2,1,0,0,-2,1,-2,-2,0,2,-1,0,2,0,2,0,1,0,0,-2,0,0,0,-1,-2,-2,0,2,0,0,-2,3,0,0,2,0,
0,2,0,2,-1,-2,0,0,0,-2,2,0,-2,-2,-1,-2,2,0,0,0,0,0,0,2,1,0,0,0,0,2,2,0,2,-2,0,-2,1,0

A030207 Expansion of $\eta(q)^2 * \eta(q^2) * \eta(q^4) * \eta(q^8)^2$ in powers of q .

$$\frac{e^{\pi \sqrt{2}} \Gamma\left(\frac{5}{8}\right)^6 (7\sqrt{2} + 10) \sqrt{2 - \sqrt{2}}}{512 \pi^{3/2} \Gamma\left(\frac{7}{8}\right)^6}$$

0.91016067657431845046021879463297

1,-2,-2,4,0,4,0,-8,-5,0,14,-8,0,0,0,16,2,10,-34,0,0,-28,0,16,25,0,28,0,0,0,0,-32,-28,-4,0,
-20,0,68,0,0,-46,0,14,56,0,0,0,-32,49,-50,-4,0,0,-56,0,0,68,0,-82,0,0,0,0,64,0,56,62,8,
0,0,0,40,-142,0,-50,-136,0,0,0,0,-11,92,158,0,0,-28,0

A030211 Expansion of $q^{(-1/2)} * (\eta(q) * \eta(q^2))^4$ in powers of q .

$$\frac{e^{\frac{\pi}{2}} \pi^2 \sqrt{2}}{16 \Gamma\left(\frac{3}{4}\right)^8}$$

0.82530138441469599315517033666575

1,-4,-2,24,-11,-44,22,8,50,44,-96,-56,-121,152,198,-160,176,-48,-162,-88,-198,52,22,
528,233,-200,-242,88,-176,-668,550,-264,-44,188,224,728,154,484,-1056,-656,-311,
236,-100,-792,714,528,640,-88,-478,484,1566,-968,192,-780,-1994,648,-942

A030212 Glaisher's $\chi_4(n)$.

$$\frac{e^{\pi} \pi^{5/2}}{64 \Gamma\left(\frac{3}{4}\right)^{10}}$$

0.82838667943623753807544264315748

1,-4,0,16,-14,0,0,-64,81,56,0,0,-238,0,0,256,322,-324,0,-224,0,0,0,0,-429,952,0,0,82,0,0,
-1024,0,-1288,0,1296,2162,0,0,896,-3038,0,0,0,-1134,0,0,0,2401,1716,0,-3808,2482,
0,0,0,0,-328,0,0,-6958,0,0,4096,3332,0,0,5152,0,0

A033715 Number of integer solutions (x, y) to the equation $x^2 + 2y^2 = n$.

$$\frac{\Gamma\left(\frac{5}{8}\right)^2 (2 + \sqrt{2})^{3/2} \sqrt{2}}{8 \sqrt{\pi} \Gamma\left(\frac{7}{8}\right)^2}$$

1.0904925208230831577830694810601

1,2,2,4,2,0,4,0,2,6,0,4,4,0,0,0,2,4,6,4,0,0,4,0,4,2,0,8,0,0,0,0,2,8,4,0,6,0,4,0,0,4,0,4,4,0,
0,0,4,2,2,8,0,0,8,0,0,8,0,4,0,0,0,0,2,0,8,4,4,0,0,0,6,4,0,4,4,0,0,0,0,10,4,4,0,0,4,0,4,4,
0,0,0,0,0,0,4,4,2,12,2,0,8,0

A033716 Number of integer solutions to the equation $x^2 + 3y^2 = n$.

$$\frac{3^{3/4} \Gamma\left(\frac{2}{3}\right) (1 + \sqrt{3})}{6 \Gamma\left(\frac{3}{4}\right) \Gamma\left(\frac{11}{12}\right)}$$

1.0866101607435811045507157864090

1,2,0,2,6,0,0,4,0,2,0,0,6,4,0,0,6,0,0,4,0,4,0,0,0,2,0,2,12,0,0,4,0,0,0,0,6,4,0,4,0,0,0,4,0,0,
0,0,6,6,0,0,12,0,0,0,0,4,0,0,0,4,0,4,6,0,0,4,0,0,0,0,0,4,0,2,12,0,0,4,0,2,0,0,12,0,0,0,0,
0,0,8,0,4,0,0,0,4,0,0,6,0

A033718 Product $\theta_3(q^d)$; $d \mid 5$.

$$\frac{5^{3/4} \sqrt{\pi} \sqrt{2} (5 - \sqrt{5})^{3/2} (\sqrt{5} + 1)^3}{800 \Gamma\left(\frac{3}{4}\right)^2}$$

1.0864351386685138312950480426460

1,2,0,0,2,2,4,0,0,6,0,0,0,0,4,0,2,0,0,0,2,8,0,0,4,2,0,0,0,4,4,0,0,0,0,0,6,0,0,0,0,4,0,0,0,6,
4,0,0,6,0,0,0,0,8,0,4,0,0,0,0,4,0,0,2,0,0,0,0,8,4,0,0,0,0,0,0,0,0,2,10,0,0,8,0,4,0,0,4,
0,0,0,0,4,0,4,0,0,0,2,4,0,0,0,8,0,0,0,4,0,0,0,0,0,0,4,0,0,0,4,2,0,0,0,2,12

A033761 Product $t_2(q^d)$; $d \mid 2$, where $t_2 = \theta_2(q)/(2*q^{(1/4)})$.

$$\frac{e^{\frac{3\pi}{8}} \sqrt{\pi} 2^{1/8}}{4 \Gamma\left(\frac{3}{4}\right)^2}$$

1.0452429240513094500141402026876

1,1,1,2,0,1,2,1,1,1,1,0,3,1,0,2,1,1,1,0,1,3,1,2,0,0,1,2,1,0,3,1,0,2,1,1,2,0,1,0,2,1,2,1,0,3,
0,1,3,0,0,2,1,0,0,1,2,4,1,1,0,1,1,1,0,1,3,1,1,0,1,1,2,1,0,3,0,1,4,0,1,0,1,0,2,1,1,2,0,0,2,
2,1,3,0,0,2,2,1,0,2,1,0,1,0

A033763 Product $t_2(q^d)$; $d \mid 4$, where $t_2 = \theta_2(q)/(2*q^{(1/4)})$.

$$\frac{e^{\frac{7\pi}{8}} 2^{7/8} \Gamma\left(\frac{5}{8}\right)^3 (1 + \sqrt{2})}{64 \pi^{3/4} \Gamma\left(\frac{7}{8}\right)^3}$$

1.0452465691712310662180940755782

1,1,1,2,1,2,3,3,1,2,3,1,5,3,2,4,4,3,3,3,3,5,3,2,5,5,3,8,2,2,7,4,3,6,6,4,5,3,3,5,7,3,8,4,3,10,
6,6,6,4,3,5,10,2,5,7,4,10,3,4,9,9,5,8,3,4,9,7,5,9,9,5,9,5,3,10,6,4,9,5,7,9,10,5,6,7,5

A034433 Expansion of $q^{(-3)} * (\eta(q) * \eta(q^8))^8$ in powers of q .

$$\frac{e^{3\pi} \sqrt{2} \Gamma\left(\frac{5}{8}\right)^{16} (99 + 70 \sqrt{2})}{4194304 \pi^4 \Gamma\left(\frac{7}{8}\right)^{16}}$$

0.69140340250013819567554280455813

1,-8,20,0,-70,64,56,0,-133,-96,148,0,670,-512,-968,0,1077,1680,-2064,0,-2098,768,
4400,0,-1766,-8128,7044,0,744,4096,-4760,0,-9780,16344,-6652,0,7894,-13440,
-10320,0,41923,-8736,-16780,0,-5892,-6144,14560,0,-27886,-11056,55940

A034896 Number of solutions to $a^2 + b^2 + 3c^2 + 3d^2 = n$.

$$\frac{\Gamma\left(\frac{2}{3}\right)^2 \sqrt{3} (1 + \sqrt{3})^2}{12 \Gamma\left(\frac{3}{4}\right)^2 \Gamma\left(\frac{11}{12}\right)^2}$$

1.1807216414311911665305728766137

1,4,4,4,20,24,4,32,52,4,24,48,20,56,32,24,116,72,4,80,120,32,48,96,52,124,56,4,160,
120,24,128,244,48,72,192,20,152,80,56,312,168,32,176,240,24,96,192,116,228,124,
72,280,216,4,288,416,80,120,240,120,248,128,32,500

A034933 Expansion of $\theta_3(q)^2 * \theta_3(q^3)$ in powers of q .

$$\frac{\pi^{1/4} \sqrt{3} \Gamma\left(\frac{2}{3}\right) \Gamma\left(\frac{11}{12}\right)^2 \Gamma\left(\frac{7}{12}\right)^3 \sqrt{2} (1 + \sqrt{3})}{8 \Gamma\left(\frac{3}{4}\right)^8}$$

1.1805311048499148127913065372543

1,4,4,2,12,16,0,8,20,4,8,8,10,32,8,0,28,24,4,8,32,16,16,16,0,28,8,2,40,48,8,8,52,0,8,16,
12,64,16,8,40,24,0,24,40,16,16,16,26,28,20,0,64,80,0,16,40,24,24,8,0,64,24,8,60,48,
8,24,72,0,16,16,20,48,24,10,40,96

A034950 Expansion of $\eta(8z)*\eta(16z)*\theta_3(2z)$.

$$\frac{e^{\frac{\pi}{2}} 2^{15/16} \Gamma\left(\frac{5}{8}\right)^3 (2 + \sqrt{2})^{3/2}}{32 \pi^{3/4} \Gamma\left(\frac{7}{8}\right)^3 \sqrt{\sqrt{2} \sqrt{2 + \sqrt{2}}}}$$

1.0864310224167481794245971342311

1,2,0,0,1,-2,0,0,-4,-2,0,0,-3,0,0,0,4,-4,0,0,0,6,0,0,1,4,0,0,4,2,0,0,0,-2,0,0,4,-2,0,0,-3,2,0,
0,-4,-4,0,0,-4,2,0,0,-8,-6,0,0,8,-4,0,0,1,-4,0,0,-4,6,0,0,0,2,0,0,0,-2,0,0,4,8,0,0,0,6,0,0,
5,-2,0,0,4,-2,0,0,8,4,0,0,-4,-8,0,0,-4,8,0,0,4

A034951 Expansion of $\eta(8z)*\eta(16z)*\theta_3(2z)*\theta_3(4z)$.

$$\frac{e^{\frac{\pi}{2}} 2^3/16 \Gamma\left(\frac{5}{8}\right)^4 (3 + 2\sqrt{2})}{32 \pi \Gamma\left(\frac{7}{8}\right)^4 (2 - \sqrt{2})^{1/4}}$$

1.0904887178758020353082533421241

1,2,2,4,1,-2,2,-4,-2,2,-8,-4,-1,-4,-6,0,-4,-8,10,-4,-6,6,2,8,9,-4,-6,4,4,14,2,4,4,10,8,-12,
14,-2,8,8,-11,-6,-4,12,-2,-8,0,-4,-2,-2,-6,4,-16,-2,-6,-20,2,8,2,-8,-7,-12,-12,-16,12,-6,
-8,8,10,-10,-16,4,-12,18,18,-4,-2,0,18,12,-16,2,-8,20,-9,2,18,-4,28,-6,2

A035016 Fourier coefficients of $E_{\{0,4\}}$.

$$\frac{\pi^2}{4 \Gamma\left(\frac{3}{4}\right)^8}$$

0.48525429742290310748747400119958

1,-16,112,-448,1136,-2016,3136,-5504,9328,-12112,14112,-21312,31808,-35168,38528,
-56448,74864,-78624,84784,-109760,143136,-154112,149184,-194688,261184,
-252016,246176,-327040,390784,-390240,395136,-476672,599152,-596736

A035036 Fourier coefficients of $E_{\{\gamma,2\}}*E_{\{0,4\}}$.

$$\frac{3 \pi^3}{8 \Gamma\left(\frac{3}{4}\right)^{12}}$$

1.0140872910996762397506785756504

1,8,-248,1952,-8440,25008,-60512,134464,-270584,474344,-775248,1288416,-2059360,

2970352,-4168384,6101952,-8659192,11358864,-14704664,19808800,-26383440,
32809216,-39940896,51490752,-66022496,78150008,-92080912,115265600,
-141859520

A035099 McKay-Thompson series of class 2B for the Monster group with $a(0) = 40$.

$$72 e^{-\pi}$$

$$3.1114021149916019837580770763644$$

1,40,276,-2048,11202,-49152,184024,-614400,1881471,-5373952,14478180,-37122048,
91231550,-216072192,495248952,-1102430208,2390434947,-5061476352,
10487167336,-21301241856,42481784514,-83300614144

A035150 Fourier coefficients of $(\text{normalized Delta})^4$.

$$e^{4\pi} \pi^{24}$$

$$68719476736 \Gamma\left(\frac{3}{4}\right)^{96}$$

$$0.011933783364835668794157706251647$$

1,-96,4464,-133760,2897880,-48264768,641207744,-6954435840,62452035180,
-467536231520,2916146241888,-14993052561792,61695767581248,
-187599812159040,302907998183040,676931170946304,-7255673126427378,
28908305661771648

A035190 Fourier coefficients of $(\text{normalized Delta})^5$.

$$e^{5\pi} \pi^{30}$$

$$35184372088832 \Gamma\left(\frac{3}{4}\right)^{120}$$

$$0.0039443249544967473853768323361837$$

1,-120,7020,-266560,7379190,-158562144,2748847640,-39443189760,476711357265,
-4910778324400,43440479153652,-331129448133120,2173189785854230,
-12199334429782080,57636170473930920,-220943909849546752,
623388743422483500

A035363 Number of partitions of n into even parts.

$$\frac{e^{-\frac{\pi}{12}} \sqrt{2} \Gamma\left(\frac{3}{4}\right)}{\pi^{1/4}}$$

$$1.0018744370146240433848535349575$$

1,0,1,0,2,0,3,0,5,0,7,0,11,0,15,0,22,0,30,0,42,0,56,0,77,0,101,0,135,0,176,0,231,0,297,0,
385,0,490,0,627,0,792,0,1002,0,1255,0,1575,0,1958,0,2436,0,3010,0,3718,0,4565,0,
5604,0,6842,0,8349,0,10143,0,12310,0

A035444 Number of partitions of n into parts $4k$.

$$\frac{e^{-\frac{\pi}{6}} 2^{7/8} \Gamma\left(\frac{3}{4}\right)}{\pi^{1/4}}$$

1.0000034873666794496495854034619

1,0,0,0,1,0,0,0,2,0,0,0,3,0,0,0,5,0,0,0,7,0,0,0,11,0,0,0,15,0,0,0,22,0,0,0,30,0,0,0,42,0,0,
0,56,0,0,0,77,0,0,0,101,0,0,0,135,0,0,0,176,0,0,0,231,0,0,0,297,0,0,0,385,0,0,0,490,0,
0,0,627,0,0,0,792,0,0,0,1002,0

A035457 Number of partitions of n into parts of the form $4*k + 2$.

$$\frac{e^{\frac{\pi}{12}} 2^{5/8}}{2}$$

1.0018709431232798864635340879674

1,0,1,0,1,0,2,0,2,0,3,0,4,0,5,0,6,0,8,0,10,0,12,0,15,0,18,0,22,0,27,0,32,0,38,0,46,0,54,0,
64,0,76,0,89,0,104,0,122,0,142,0,165,0,192,0,222,0,256,0,296,0,340,0,390,0,448,0,
512,0,585,0,668,0,760,0,864,0,982,0

A036018 Number of partitions of n into parts not of form $4k+2$, $12k$, $12k+3$ or $12k-3$.

$$\frac{e^{\frac{\pi}{4}} \sqrt{\pi} \sqrt{3} \Gamma\left(\frac{11}{12}\right) (\sqrt{3} - 1)}{3 \Gamma\left(\frac{2}{3}\right) \Gamma\left(\frac{3}{4}\right)}$$

1.0451695080427296338943119880134

1,1,1,1,2,3,3,4,6,7,8,10,13,16,18,22,28,33,38,45,55,65,74,87,104,121,138,160,188,217,
247,284,330,378,428,489,562,640,722,820,936,1059,1191,1345,1524,1717,1924,2163,
2438,2734,3054,3419,3834,4284,4770,5321,5943

A036026 Number of partitions of n into parts not of forms $4*k+2$, $20*k$, $20*k+5$ or $20*k+15$.

$$\frac{e^{\frac{\pi}{2}} 2^{2/5} 5^{3/4} \Gamma\left(\frac{4}{5}\right)^6 (5 - \sqrt{5})^3 (\sqrt{5} + 1)^3 (\sqrt{5} - 1)^3}{25600 \Gamma\left(\frac{9}{10}\right)^3 \Gamma\left(\frac{7}{10}\right)^3}$$

1.0452537020039188234662614604227

1,1,1,2,3,3,4,6,8,10,12,16,21,25,30,38,48,57,68,84,102,121,143,172,207,243,284,338,
400,465,542,636,744,862,996,1158,1344,1546,1776,2050,2361,2701,3088,3540,4050,
4613,5248,5980,6808,7719,8742,9916,11232

A045479 McKay-Thompson series of class 2B for the Monster group with $a(0) = -8$.

$$24 e^{-\pi}$$

1.0371340383305339945860256921215

1,-8,276,-2048,11202,-49152,184024,-614400,1881471,-5373952,14478180,-37122048,
91231550,-216072192,495248952,-1102430208,2390434947,-5061476352,
10487167336,-21301241856,42481784514,-83300614144

A045490 McKay-Thompson series of class 8A for Monster.

$$6 e^{-\pi} \sqrt{2} (2 + \sqrt{2})$$

1.2519315306681762915382204430997

1,4,36,128,386,1024,2488,5632,12031,24576,48308,91904,170110,307200,542872,
941056,1602819,2686976,4439688,7238272,11657090,18561024,29242240,45617664,
70507772,108036096,164192188,247620352,370726652,551215104,814216536,
1195226112,1744133125,2530738176

A045820 Theta series of D8 lattice with respect to midpoint of edge.

$$\frac{e^{\frac{\pi}{2}} \pi^2 \sqrt{2}}{4 \Gamma\left(\frac{3}{4}\right)^8}$$

3.3012055376587839726206813466630

2,24,124,368,746,1288,2220,3536,4964,6904,9536,12112,15630,20592,24588,29632,
37472,43296,50492,61456,68724,79560,95404,104352,118226,137392,148636,
167920,191904,204712

A045823 $a(n) = \text{sigma}_3(2*n+1)$.

$$\frac{3 e^{\frac{\pi}{2}} \pi^2 \sqrt{2}}{16 \Gamma\left(\frac{3}{4}\right)^8}$$

2.4759041532440879794655110099972

1,28,126,344,757,1332,2198,3528,4914,6860,9632,12168,15751,20440,24390,29792,
37296,43344,50654,61544,68922,79508,95382,103824,117993,137592,148878,
167832,192080,205380,226982,260408,276948,300764,340704,357912

A045828 One fourth of theta series of cubic lattice with respect to face.

$$\frac{e^{\frac{\pi}{2}} \pi^{3/4} \sqrt{2}}{8 \Gamma\left(\frac{3}{4}\right)^3}$$

1.0904963237438401994904052424493

1,2,2,4,3,2,6,4,4,6,4,4,7,8,2,8,8,4,10,4,4,10,10,8,9,4,6,12,8,6,10,12,4,14,8,4,16,10,8,8,9,
10,12,12,8,12,12,4,20,10,6,20,8,6,10,12,8,20,18,8,11,12,12,16,8,6,20,16,12,14,8,12,
20,14,6,12,20,8,26,12,8,22,8,12,15

A045831 Number of 4-core partitions of n.

$$\frac{e^{\frac{5\pi}{8}} \pi^{3/4} 2^{7/8}}{16 \Gamma\left(\frac{3}{4}\right)^3}$$

1.0471948621597510212899136314219

1,1,2,3,1,3,3,3,4,4,2,2,7,3,5,6,2,4,7,3,4,7,5,8,5,4,4,8,5,6,7,2,9,11,3,8,9,4,6,5,7,5,14,7,4,
10,5,10,11,3,9,10,5,8,10,4,6,15,8,9,10,6,8,15,6,10,6,5,15,9,6,8,14,8,6,13,5,16,18,7,8,
7,9,6,15,6,12,17,5,8,15,7,12

A045834 Half of theta series of cubic lattice with respect to edge.

$$\frac{e^{\frac{\pi}{4}} \pi^{3/4} 2^{3/4}}{4 \Gamma\left(\frac{3}{4}\right)^3}$$

1.1825448251755331804362581677394

1,4,5,4,8,8,5,12,8,4,16,12,9,12,8,12,16,16,8,16,17,8,24,8,8,28,16,12,16,20,13,24,24,8,
16,16,16,28,24,12,32,16,13,28,8,20,32,32,8,20,24,16,40,16,16,32,25,20,24,24,24,28,
24,8,32,36,16,44,16,12,40,32,17,36,32

A047626 Theta series of 14-dimensional integral laminated lattice LAMBDA14.3 with minimal norm 4.

$$\frac{45 \pi^{7/2}}{32 \Gamma\left(\frac{3}{4}\right)^{14}}$$

4.4886315023670082492523563771736

1,0,1212,11584,70380,261120,776800,1989504,4398252,8878080,16788312,29833920,
50078944,80686080,126457920,191702144,281524140,403691520,570110556,
793005120,1074444600,1431982080,1903243680,2494537344,3204056800,
4082872320,5185620120

A050468 $a(n) = \text{Sum}_{\{d|n, n/d \equiv 1 \pmod{4}\}} d^4 - \text{Sum}_{\{d|n, n/d \equiv 3 \pmod{4}\}} d^4$.

$$\frac{9 e^{\pi} \pi^{5/2}}{256 \Gamma\left(\frac{3}{4}\right)^{10}}$$

1.8638700287315344606697459471043

1,16,80,256,626,1280,2400,4096,6481,10016,14640,20480,28562,38400,50080,65536,
83522,103696,130320,160256,192000,234240,279840,327680,391251,456992,524960,
614400,707282,801280,923520,1048576,1171200

A050470 $a(n) = \text{Sum}_{\{d|n, n/d \equiv 1 \pmod{4}\}} d^2 - \text{Sum}_{\{d|n, n/d \equiv 3 \pmod{4}\}} d^2$.

$$\frac{e^{\pi} \pi^{3/2}}{32 \Gamma\left(\frac{3}{4}\right)^6}$$

1.1891822320988303344410450237196

1,4,8,16,26,32,48,64,73,104,120,128,170,192,208,256,290,292,360,416,384,480,528,512,
651,680,656,768,842,832,960,1024,960,1160,1248,1168,1370,1440,1360,1664,1682,
1536,1848,1920,1898,2112,2208,2048,2353,2604

A051136 Number of 2-colored generalized Frobenius partitions.

$$\frac{e^{-\frac{\pi}{12}} 2^{3/4} \Gamma\left(\frac{3}{4}\right)}{\pi^{1/4}}$$

1.1914362088371364386290110210549

1,4,9,20,42,80,147,260,445,744,1215,1944,3059,4740,7239,10920,16286,24028,35110,

50844,73010,104028,147144,206700,288501,400232,552037,757288,1033495,
1403508,1897088,2552812,3420527,4564500,6067265

A052241 McKay-Thompson series of class 8C for Monster.

$$3 e^{-\frac{\pi}{4}} 2^{3/4}$$

2.3003804232954979688194262905160

1,26,79,326,755,2106,4460,10284,20165,41640,77352,147902,263019,475516,816065,
1413142,2353446,3936754,6391091,10390150,16497734,26184098,40775677,
63394792,97037170,148178934,223351867,335704742,499050461,739575640,
1085723797

A053692 Number of self-conjugate 4-core partitions of n.

$$\frac{e^{\frac{5\pi}{8}} 2^{7/8} \Gamma\left(\frac{5}{8}\right)^2 (2 + \sqrt{2}) \sqrt{2 - \sqrt{2}}}{32 \sqrt{\pi} \Gamma\left(\frac{7}{8}\right)^2}$$

1.0432982626193107505557582450705

1,1,0,1,1,1,1,0,0,2,0,1,1,1,2,0,0,1,1,0,1,1,0,1,2,0,2,1,0,1,0,1,1,1,0,1,0,0,1,3,1,0,1,0,2,
1,0,1,1,1,0,1,0,0,2,0,1,0,1,2,2,0,1,0,0,2,1,1,1,2,0,0,0,0,1,1,0,2,1,0,1,1,0,1,2,0

A053694 Number of self-conjugate 5-core partitions of n.

$$\frac{2 e^{\pi} \sqrt{\pi} (5 + \sqrt{5})^2 \left(\frac{\sqrt{5}}{4} - \frac{1}{4}\right)^4}{25 \Gamma\left(\frac{3}{4}\right)^2}$$

1.0432981054178127991714624020466

1,1,0,1,1,0,0,1,1,1,0,0,2,0,0,1,2,1,0,1,0,0,0,0,1,2,0,0,2,0,0,1,0,2,0,1,2,0,0,1,2,0,0,0,1,0,
0,0,1,1,0,2,2,0,0,0,0,2,0,0,2,0,0,1,2,0,0,2,0,0,0,1,2,2,0,0,0,0,0,1,1,2,0,0,2,0,0,0,2,1,0,
0,0,0,0,0,2,1,0,1,2,0,0,2,0

A053993 The number $\phi_2(n)$ of Frobenius partitions that allow up to 2 repetitions of an integer in a row.

$$\frac{e^{-\frac{\pi}{12}} \Gamma\left(\frac{2}{3}\right)^{2/3} \Gamma\left(\frac{3}{4}\right)^{1/3} \Gamma\left(\frac{7}{12}\right)^{2/3} 6^{1/4}}{\pi^{7/12} (\sqrt{2} (\sqrt{3} - 1))^{2/3}}$$

1.0492534068143294197225596254818

1, 1, 3, 5, 9, 14, 24, 35, 55, 81, 120, 171, 248, 345, 486, 669, 920, 1246, 1690, 2256, 3014, 3984, 5253, 6870, 8970, 11618, 15022, 19306, 24745, 31557, 40154, 50845, 64244, 80850, 101501, 126982, 158514, 197218, 244865, 303143, 374497, 461435

A058514 McKay-Thompson series of class 16A for Monster.

$$e^{-\frac{\pi}{2}} 2^{3/4} (2 + \sqrt{2})$$

1.1936445047514210755630713979253

1, 4, 10, 24, 47, 84, 150, 248, 403, 648, 1002, 1536, 2316, 3420, 5004, 7224, 10309, 14592, 20456, 28440, 39240, 53736, 73102, 98808, 132779, 177444, 235868, 312024, 410785, 538368, 702630, 913208, 1182342, 1525200, 1960418, 2511360, 3206675, 4081576, 5179670, 6554112, 8270086

A058571 McKay-Thompson series of class 24A for Monster.

$$2 e^{-\frac{\pi}{2}} (1 + \sqrt{3})$$

1.1358751288923503161692477472101

1, 3, 3, 7, 18, 21, 30, 57, 75, 104, 156, 207, 293, 411, 525, 712, 984, 1248, 1622, 2169, 2757, 3530, 4560, 5736, 7284, 9249, 11472, 14374, 18078, 22242, 27484, 34140, 41787, 51184, 62796, 76317, 92893, 112998, 136275, 164671

A058584 McKay-Thompson series of class 24a for Monster.

$$\frac{4 e^{-\frac{\pi}{2}} \Gamma\left(\frac{3}{4}\right)^2}{\Gamma\left(\frac{11}{12}\right) \Gamma\left(\frac{7}{12}\right)}$$

0.77381497544041976727757512683364

1, -5, -5, -9, -14, -19, -34, -55, -69, -104, -164, -209, -283, -413, -539, -712, -968, -1248, -1642, -2167, -2731, -3526, -4592, -5736, -7244, -9255, -11520, -14378, -18018, -22238, -27556, -34132, -41701, -51184, -62900, -76323, -92771, -113002, -136421, -164673, -198842, -238627

A058632 Coefficients of replicable function number 32b.

$$e^{-\frac{\pi}{4}} 2^{3/8} \sqrt{2 + \sqrt{2}}$$

1.0925403904439510814634408322391

1,2,3,6,7,10,16,20,29,40,52,70,91,116,149,190,242,306,383,478,590,730,897,1096,1342,
1630,1975,2390,2873,3448,4133,4932,5880,6994,8290,9814,11587,13650,16058,
18848,22089,25842,30178,35186,40950,47594,55231,63996,74068,85592,98776,
113864

A062243 McKay-Thompson series of class 24c for the Monster group.

$$\frac{3 e^{-\frac{\pi}{2}} \Gamma\left(\frac{2}{3}\right)^2 \Gamma\left(\frac{3}{4}\right)^2 (1 + \sqrt{3})^2}{4 \pi \Gamma\left(\frac{11}{12}\right)^2}$$

0.91543294486043232727103873243182

1,-2,1,0,-2,2,2,-4,3,4,-8,4,5,-14,7,8,-20,12,14,-28,17,20,-44,24,28,-66,36,40,-90,52,56,
-124,71,80,-176,96,109,-244,133,144,-326,182,198,-432,240,268,-580,316,349,-772,
420,456,-1004,552,600,-1300,713,780,-1692,916,1001,-2186,1182

A062244 McKay-Thompson series of class 36B for the Monster group.

$$\frac{3 \Gamma\left(\frac{2}{3}\right)^2 \Gamma\left(\frac{11}{12}\right) \Gamma\left(\frac{7}{12}\right)^3 (2 + \sqrt{3}) e^{-\frac{\pi}{3}}}{4 \pi \Gamma\left(\frac{3}{4}\right)^4}$$

0.95873074259369238706844958821752

1,-1,1,1,-1,0,1,-2,0,2,-3,1,4,-4,1,4,-6,1,5,-8,1,8,-10,2,11,-14,4,14,-19,4,17,-24,4,23,-31,
6,31,-40,9,38,-50,10,46,-63,11,60,-79,16,77,-98,21,92,-122,24,112,-150,28,140,-183,
36,173,-224,46,208,-273,54,249,-329,62,304,-396,78,370,-478,98

A070048 Number of partitions of n into odd parts in which no part appears more than thrice.

$$\frac{e^{-\frac{\pi}{8}} 2^{7/16}}{(2 - \sqrt{2})^{1/4}}$$

1.0452465692093665424983597736743

1,1,1,2,1,2,3,3,4,5,6,7,8,9,11,13,16,18,21,24,27,32,36,41,48,54,61,70,78,88,100,112,
127,143,159,179,199,222,248,276,308,342,380,421,465,516,570,629,697,767,845,
932,1022,1124,1236,1355,1488,1631,1785,1954,2136

A073252 Coefficients of replicable function number 48g.

$$e^{-\frac{\pi}{12}} \sqrt{2}$$

1.0884712648374223238242312095088

1,2,1,2,4,4,5,6,9,12,13,16,21,26,29,36,46,54,62,74,90,106,122,142,171,200,227,264,311,
358,408,470,545,626,709,810,933,1062,1198,1362,1555,1760,1980,2238,2536,2858,
3205,3602,4063,4560,5092,5704,6400,7150,7966

A079006 Expansion of $q^{(-1/4)} * (\eta(q) * \eta(q^4)^2 / \eta(q^2)^3)^2$ in powers of q .

$$\frac{e^{\frac{\pi}{4}} 2^{3/4}}{4}$$

0.92216066615654117372398891504662

1,-2,5,-10,18,-32,55,-90,144,-226,346,-522,777,-1138,1648,-2362,3348,-4704,6554,
-9056,12425,-16932,22922,-30848,41282,-54946,72768,-95914,125842,-164402,
213901,-277204,357904,-460448,590330,-754368,960948,-1220370

A080015 Expansion of $\theta_3(q) / \theta_3(q^2)$ in powers of q .

$$\sqrt{2} \sqrt{2 - \sqrt{2}}$$

1.0823922002923939687994464107328

1,2,-2,-4,6,8,-12,-16,22,30,-40,-52,68,88,-112,-144,182,228,-286,-356,440,544,-668,
-816,996,1210,-1464,-1768,2128,2552,-3056,-3648,4342,5160,-6116,-7232,8538,
10056,-11820,-13872,16248,18996,-22176,-25844,30068

A080054 G.f.: $\text{Product}_{\{n \geq 0\}} (1 + x^{(2n+1)}) / (1 - x^{(2n+1)})$.

$$2^{1/8}$$

1.0905077326652576592070106557607

1,2,2,4,6,8,12,16,22,30,40,52,68,88,112,144,182,228,286,356,440,544,668,816,996,
1210,1464,1768,2128,2552,3056,3648,4342,5160,6116,7232,8538,10056,11820,
13872,16248,18996,22176,25844,30068,34936,40528

A080332 G.f.: $\text{Product}_{\{n > 0\}} (1 - x^n)^3 * (1 - x^{(2*n - 1)})^2 = \text{Sum}_{\{n \text{ in } \mathbb{Z}\}} (6*n + 1) * x^{(n*(3*n + 1)/2)}$.

$$\frac{e^{\frac{\pi}{24}} \pi^{3/4} 2^{1/8}}{2 \Gamma\left(\frac{3}{4}\right)^3}$$

0.79700085374264001755839758875835

1,-5,7,0,0,-11,0,13,0,0,0,0,-17,0,0,19,0,0,0,0,0,-23,0,0,0,25,0,0,0,0,0,0,0,-29,0,0,0,0,
31,0,0,0,0,0,0,0,0,0,0,-35,0,0,0,0,0,37,0,0,0,0,0,0,0,0,0,0,0,-41,0,0,0,0,0,43,0,0,0,
0,0,0,0,0,0,0,0,0,0,0,-47,0,0,0,0,0,0

A080965 Expansion of $\eta(q^2)^{12}/(\eta(q)^4\eta(q^4)^5)$ in powers of q .

$$\frac{2^{7/8} \pi^{3/4}}{2 \Gamma\left(\frac{3}{4}\right)^3}$$

1.1759321620996608591267497978056

1,4,2,-8,-4,8,-8,-16,6,12,8,-8,-8,24,0,-16,12,16,10,-24,-8,16,-24,-16,8,28,8,-32,-16,8,0,
-32,6,32,16,-16,-12,40,-24,-16,24,16,16,-40,-8,40,0,-32,24,36,10,-16,-24,24,-32,-48,
0,32,24,-24,-16,40,0,-48,12,16,16

A080966 Expansion of $\theta_4(q^2) * \theta_2(q)^2/(4*q^{(1/2)})$ in powers of q .

$$\frac{e^{\frac{\pi}{4}} \pi^{3/4} 2^{5/8}}{4 \Gamma\left(\frac{3}{4}\right)^3}$$

1.0843983859567250171013246759566

1,2,-1,-2,0,-4,-1,2,-4,2,4,2,1,-2,4,2,4,0,-4,0,-3,4,-4,-4,0,-2,0,-6,0,2,-1,-4,4,-4,-4,8,4,6,0,
2,-8,0,7,2,4,2,4,0,0,-6,4,0,-4,0,0,0,1,-6,-4,4,-8,-2,-4,4,0,2,-4,-6,0,-2,4,-8,1,2,0,0,4,4,
4,-2,4,6,0,-2,0,-4,-8,10,8,8,-1,4,4,2,-4,-4,-8,6,4,-6,8,-6,4,4

A081360 Expansion of $q^{(-1/24)} (m (1-m) / 16)^{(1/24)}$ in powers of q , where $m = k^2$ is the parameter and q is the nome for Jacobian elliptic functions.

$$\frac{e^{\frac{\pi}{24}} 2^{3/4}}{2}$$

0.95849867272382013626870812138915

1,-1,1,-2,2,-3,4,-5,6,-8,10,-12,15,-18,22,-27,32,-38,46,-54,64,-76,89,-104,122,-142,165,
-192,222,-256,296,-340,390,-448,512,-585,668,-760,864,-982,1113,-1260,1426,-1610,
1816,-2048,2304,-2590,2910,-3264,3658,-4097,4582,-5120,5718,-6378

A081362 Expansion of $q^{(1/24)} * \eta(q) / \eta(q^2)$ in powers of q .

$$e^{-\frac{\pi}{24}} 2^{1/8}$$

0.95670872511358700344903871736188

1,-1,0,-1,1,-1,1,-1,2,-2,2,-2,3,-3,3,-4,5,-5,5,-6,7,-8,8,-9,11,-12,12,-14,16,-17,18,-20,23,

-25,26,-29,33,-35,37,-41,46,-49,52,-57,63,-68,72,-78,87,-93,98,-107,117,-125,133,
-144,157,-168,178,-192,209,-223,236,-255,276,-294,312,-335,361,-385

A081622 Number of 6-core partitions of n.

$$-\frac{e^{\frac{35\pi}{24}} \pi^{7/4} 2^{17/24} \Gamma\left(\frac{11}{12}\right)^2 (-2 + \sqrt{3})}{72 \Gamma\left(\frac{3}{4}\right)^7 \Gamma\left(\frac{5}{6}\right)}$$

1.0472094291268845594695569220495

1,1,2,3,5,7,5,9,10,12,12,14,20,20,21,23,24,24,32,29,35,36,44,47,38,47,49,52,55,58,59,
64,66,71,70,78,79,88,87,90,85,87,111,104,102,107,112,113,121,113,130,130,148,153,
132,147,149,156,162,149,167,160,178,180

A082303 McKay-Thompson series of class 32e for the Monster group.

$$e^{-\frac{\pi}{8}} \sqrt{2}$$

0.95492212013964388714356212328577

1,-1,-1,0,1,0,-1,1,2,-1,-2,1,2,-1,-3,1,4,-2,-5,2,5,-2,-6,3,8,-4,-9,4,10,-4,-12,6,15,-7,-17,7,
19,-8,-22,10,26,-12,-30,13,33,-14,-38,17,45,-21,-51,22,56,-24,-64,29,74,-33,-83,36,
92,-40,-104,46,119,-53,-133,58

A082304 McKay-Thompson series of class 16d for the Monster group.

$$2 e^{-\frac{\pi}{4}}$$

0.91187625553199247353184258945606

1,-2,-1,2,3,-2,-4,4,5,-8,-8,10,11,-12,-15,18,22,-26,-29,34,38,-42,-51,56,66,-78,-85,98,
109,-120,-139,156,176,-202,-222,250,279,-306,-346,384,429,-482,-530,590,650,-714,
-797,876,972,-1080,-1180,1304,1431,-1562,-1728,1892,2078,-2290,-2496

A082556 Expansion of g.f. Product_{m>=1} 1/(1-x^m)^30.

$$\frac{2048 e^{-\frac{5\pi}{4}} 2^{1/4} \Gamma\left(\frac{3}{4}\right)^{30}}{\pi^{15/2}}$$

3.9903117607692986598048803163281

1,30,495,5890,56265,456786,3263990,21017040,124018290,679118550,3484681077,
16884109080,77731521980,341784289770,1441489548195,5852747363518,
22948550618400,87131200662540,321100847115950,1150962640399770,

A082557 G.f.: $\text{Product}_{\{m \geq 1\}} 1/(1-x^m)^{32}$.

$$\frac{4096 e^{-\frac{4\pi}{3}} \Gamma\left(\frac{3}{4}\right)^{32}}{\pi^8}$$

4.3759661115974523862836338476012

1,32,560,7040,70840,604352,4528832,30529280,188313180,1076484640,5759310304,
29064224896,139226153920,636391492800,2787844780160,11748015743232,
47774241056710,187997792512640,717605948122000,2662641484567680,
9621587501598688,33916687860860288

A082558 Expansion of $\text{Product}_{\{m \geq 1\}} 1/(1-x^m)^{48}$.

$$\frac{262144 e^{-2\pi} \Gamma\left(\frac{3}{4}\right)^{48}}{\pi^{12}}$$

9.1540003586295100301298342099430

1,48,1224,21952,309876,3657312,37468928,341773440,2826752418,21491641808,
151810235136,1004753937600,6273891838360,37171410206112,209969121051648,
1135389617917568,5897908848093087,29521227582821520,142760699405228800

A082559 G.f.: $\text{Product}_{\{m \geq 1\}} 1/(1-x^m)^{64}$.

$$\frac{16777216 e^{-\frac{8\pi}{3}} \Gamma\left(\frac{3}{4}\right)^{64}}{\pi^{16}}$$

19.149079409849327111983475255950

1,64,2144,49920,905840,13627264,176638592,2025205248,20930373880,197788352320,
1728062919232,14083242424576,107837287452608,780481475916160,
5366307146732800,35202669371599360,221142159585764508,
1334633003840266624,7760187771579170400

A082564 Expansion of $\eta(q)^2 * \eta(q^2) / \eta(q^4)$ in powers of q .

$$\frac{\sqrt{\pi} 2^{5/8}}{2 \Gamma\left(\frac{3}{4}\right)^2}$$

0.91016702473555853257720967034265

1,-2,-2,4,2,0,-4,0,2,-6,0,4,4,0,0,0,2,-4,-6,4,0,0,-4,0,4,-2,0,8,0,0,0,0,2,-8,-4,0,6,0,-4,0,0,
-4,0,4,4,0,0,0,4,-2,-2,8,0,0,-8,0,0,-8,0,4,0,0,0,0,2,0,-8,4,4,0,0,0,6,-4,0,4,4,0,0,0,0,-10,
-4,4,0,0,-4,0,4,-4,0,0,0,0,0,4,-4,-2,12,2,0,-8,0

A083365 Expansion of $\psi(x) / \phi(x)$ in powers of x where $\phi()$, $\psi()$ are Ramanujan theta functions.

$$\frac{e^{\frac{\pi}{8}} 2^{3/8}}{2}$$

0.96029196922422566603475977093070

1,-1,2,-3,4,-6,9,-12,16,-22,29,-38,50,-64,82,-105,132,-166,208,-258,320,-395,484,-592,
722,-876,1060,-1280,1539,-1846,2210,-2636,3138,-3728,4416,-5222,6163,-7256,
8528,-10006,11716,-13696,15986,-18624,21666,-25169,29190,-33808,39104

A083703 Expansion of $\eta(q)^4 / \eta(q^4)$ in powers of q .

$$\frac{\pi^{3/4} 2^{3/8}}{2 \Gamma\left(\frac{3}{4}\right)^3}$$

0.83150960603602862499183467242395

1,-4,2,8,-4,-8,-8,16,6,-12,8,8,-8,-24,0,16,12,-16,10,24,-8,-16,-24,16,8,-28,8,32,-16,-8,0,
32,6,-32,16,16,-12,-40,-24,16,24,-16,16,40,-8,-40,0,32,24,-36,10,16,-24,-24,-32,48,0,
-32,24,24,-16,-40,0,48,12,-16,16,56,-16,-32,-48,16,30,-64,8,40,-24

A085140 Expansion of $q^{(-1/6)} * \eta(q^2)^3 / \eta(q)^2$ in powers of q .

$$\frac{e^{\frac{\pi}{6}} \pi^{1/4} 2^{1/4}}{2 \Gamma\left(\frac{3}{4}\right)}$$

1.0905039296781894905851482804866

1,2,2,4,5,6,10,12,15,20,26,32,40,50,60,76,92,110,134,160,191,230,272,320,380,446,522,
612,715,830,966,1120,1292,1494,1720,1976,2272,2602,2974,3400,3876,4412,5020,
5700,6460,7322,8282,9352,10559,11900,13396

A085261 Expansion of $\chi(x) / \phi(x^2)$ in powers of x where $\phi()$, $\chi()$ are Ramanujan theta functions.

$$\frac{2 e^{-\frac{\pi}{24}} \pi^{1/4} \Gamma\left(\frac{7}{8}\right) (2 - \sqrt{2})}{\Gamma\left(\frac{5}{8}\right)}$$

1.0394161623043749428966718110224

1,1,-2,-1,5,3,-9,-5,18,10,-30,-16,53,29,-85,-44,139,73,-215,-110,335,172,-502,-253,755,
382,-1104,-550,1614,805,-2312,-1142,3305,1631,-4650,-2277,6525,3193,-9041,-4395,
12486,6063,-17070,-8247,23255,11218,-31414,-15090,42289,20285

A089798 Expansion of Jacobi theta function $\theta_4(q^2)$.

$$\frac{\pi^{1/4} 2^{7/8}}{2 \Gamma\left(\frac{3}{4}\right)}$$

0.99626511456090713578995763852270

1,0,-2,0,0,0,0,0,2,0,0,0,0,0,0,0,0,0,-2,0,0,0,0,0,0,0,0,0,0,0,2,0,0,0,0,0,0,0,0,0,0,0,0,
0,0,0,0,-2,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,2,0,0,0,0,0,0,0,0,0,0,0,0,
0,0,0,0,0,0,0,0,-2,0,0,0

A089799 Expansion of Jacobi theta function $\theta_2(q^{1/2})/q^{1/8}$.

$$\frac{e^{\frac{\pi}{8}} \pi^{1/4} 2^{3/8}}{\Gamma\left(\frac{3}{4}\right)}$$

2.0865892485875548029353269998454

2,2,0,2,0,0,2,0,0,0,2,0,0,0,0,2,0,0,0,0,0,2,0,0,0,0,0,0,2,0,0,0,0,0,0,0,2,
0,0,0,0,0,0,0,0,0,2,0,0,0,0,0,0,0,0,0,0,2,0,0,0,0,0,0,0,0,0,0,0,2,0,0,0,0,0,0,0,0,0,
2,0,0,0,0,0,0,0,0,0,0

A089800 Expansion of Jacobi theta function $\theta_2(q)/q^{1/4}$.

$$\frac{e^{\frac{\pi}{4}} \pi^{1/4} 2^{3/4}}{2 \Gamma\left(\frac{3}{4}\right)}$$

2.0037348984882403346116855436470

2,0,2,0,0,0,2,0,0,0,0,0,2,0,0,0,0,0,0,0,2,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,2,0,0,0,
0,0,0,0,0,0,0,0,0,0,2,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,2,
0,0,0,0,0,0,0,0,0,0,0

A089801 $a(n) = 0$ unless $n = 3j^2 + 2j$ or $3j^2 + 4j + 1$ for some $j \geq 0$, in which case $a(n) = 1$.

$$\frac{e^{\frac{\pi}{3}} \pi^{3/4} \sqrt{3} \Gamma\left(\frac{11}{12}\right) \sqrt{2} (\sqrt{3} - 1)}{6 \Gamma\left(\frac{2}{3}\right) \Gamma\left(\frac{3}{4}\right)^2}$$

1.0432140689776613454904360238648

1,1,0,0,0,1,0,0,1,0,0,0,0,0,0,1,0,0,0,0,1,0,0,0,0,0,0,0,0,0,0,1,0,0,0,0,0,0,1,0,0,0,0,0,
0,0,0,0,0,0,0,0,0,0,1,0,0,0,0,0,0,0,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,0,0,0,0,0,
0,0,0,0,0,1,0

A089807 Expansion of Jacobi theta function $(3\theta_3(q^9) - \theta_3(q))/2$.

$$\frac{\sqrt{2} 3^{1/12} \Gamma\left(\frac{2}{3}\right)^{2/3} (\sqrt{2} (1 + \sqrt{3}))^{2/3}}{4 \pi^{1/12} \Gamma\left(\frac{3}{4}\right)^{1/3} \Gamma\left(\frac{11}{12}\right)^{2/3}}$$

0.95678259439492263826514387381135

1,-1,0,0,-1,0,0,0,0,2,0,0,0,0,0,0,-1,0,0,0,0,0,0,0,0,-1,0,0,0,0,0,0,0,0,0,2,0,0,0,0,0,0,0,
0,0,0,0,-1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,-1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,2,0,0,0,0,0,0,0,
0,0,0,0,0,0,0,0,0,0,0,-1

A092877 Expansion of $(\eta(q^4) / \eta(q))^8$ in powers of q .

$$\frac{e^\pi}{16}$$

1.4462932895487043128580678979968

1,8,44,192,718,2400,7352,20992,56549,145008,356388,844032,1934534,4306368,
9337704,19771392,40965362,83207976,165944732,325393024,628092832,
1194744096,2241688744,4152367104,7599231223,13749863984

A092924 Expansion of a Schwarzian $(\{f_{32|8}, \tau\} / (4\pi)^2)$ in powers of q^8 .

$$-\frac{15 \pi^2}{\Gamma\left(\frac{3}{4}\right)^8}$$

-29.115257845374186449248440071974

1,-1008,8304,-28224,66672,-127008,232512,-346752,533616,-763056,1046304,
-1342656,1866816,-2215584,2856576,-3556224,4269168,-4953312,6286128,
-6914880,8400672,-9709056,11060928,-12265344,14941248,-15877008,18252192,

-20603520,22935168,-24585120

A093085 Expansion of $\phi(-x) / \psi(x^4)$ in powers of x where $\phi()$, $\psi()$ are Ramanujan theta functions.

$$2 e^{-\frac{\pi}{2}} 2^{1/4} \sqrt{2 + \sqrt{2}}$$

0.91357595220400304767646896858042

1,-2,0,0,1,2,0,0,-1,-4,0,0,0,6,0,0,1,-8,0,0,0,12,0,0,-1,-18,0,0,-1,24,0,0,2,-32,0,0,1,44,0,0,
-2,-58,0,0,-1,76,0,0,2,-100,0,0,1,128,0,0,-3,-164,0,0,-1,210,0,0,4,-264,0,0,2,332,0,0,
-5,-416,0,0,-2,516,0,0,5,-640,0,0,2,790,0,0,-6,-968

A093160 Expansion of $q^{(-1/2)} * (\eta(q^4) / \eta(q))^4$ in powers of q .

$$\frac{e^{\frac{\pi}{2}}}{4}$$

1.2026193452413379138682589166760

1,4,14,40,101,236,518,1080,2162,4180,7840,14328,25591,44776,76918,129952,216240,
354864,574958,920600,1457946,2285452,3548550,5460592,8332425,12614088,
18953310,28276968,41904208,61702876,90304598

A096727 Expansion of $\eta(q)^8 / \eta(q^2)^4$ in powers of q .

$$\frac{\pi}{2 \Gamma\left(\frac{3}{4}\right)^4}$$

0.69660196484283842959212313016265

1,-8,24,-32,24,-48,96,-64,24,-104,144,-96,96,-112,192,-192,24,-144,312,-160,144,-256,
288,-192,96,-248,336,-320,192,-240,576,-256,24,-384,432,-384,312,-304,480,-448,
144,-336,768,-352,288,-624,576,-384,96,-456,744,-576,336,-432,960,-576,192

A096920 Expansion of $q^{(-1/12)} * \eta(q^2)^4 / (\eta(q)^2 * \eta(q^4))$ in powers of q .

$$\frac{e^{\frac{\pi}{12}} \pi^{1/4} 2^{5/8}}{2 \Gamma\left(\frac{3}{4}\right)}$$

1.0884674689522394348884374102521

1,2,1,2,3,2,4,4,4,6,7,8,8,10,11,14,16,16,20,22,24,28,32,34,39,44,48,54,60,66,73,82,88,
98,108,118,132,144,156,172,188,204,224,244,265,290,316,340,372,404,436,474,513,
554,600,650,700,756,816,878,948,1022,1096,1182

A096960 $a(n) = \text{Sum}_{\{0 < d|n, n/d \text{ odd}\}} d^5.$

$$\frac{3 e^{\pi} \pi^3}{64 \Gamma\left(\frac{3}{4}\right)^{12}}$$

2.9333352882681704917302175639471

1,32,244,1024,3126,7808,16808,32768,59293,100032,161052,249856,371294,537856,
762744,1048576,1419858,1897376,2476100,3201024,4101152,5153664,6436344,
7995392,9768751,11881408,14408200,17211392,20511150

A096961 $a(n) = \text{Sum}_{\{0 < d|n, n/d \text{ odd}\}} d^7.$

$$\frac{e^{\pi} \pi^4}{4 \Gamma\left(\frac{11}{12}\right)^8 \Gamma\left(\frac{7}{12}\right)^8}$$

12.260202752102648586343307603116

1,128,2188,16384,78126,280064,823544,2097152,4785157,10000128,19487172,
35848192,62748518,105413632,170939688,268435456,410338674,612500096,
893871740,1280016384,1801914272,2494358016,3404825448

A096981 Number of partitions of n into parts congruent to $\{0, 1, 3, 5\} \bmod 6.$

$$\frac{e^{-\frac{5\pi}{24}} 2^{35/72} 3^{5/12} \Gamma\left(\frac{3}{4}\right)^{2/3} \Gamma\left(\frac{5}{6}\right)^{1/6} \Gamma\left(\frac{7}{12}\right)^{1/3}}{\pi^{1/3} (\sqrt{2} (\sqrt{3} - 1))^{1/3}}$$

1.0452502211618122124126232581896

1,1,1,2,2,3,5,6,7,10,12,15,21,25,30,39,46,56,72,85,101,125,147,175,215,252,296,356,
415,487,582,676,786,927,1072,1244,1460,1682,1939,2255,2588,2976,3446,3942,
4510,5189,5916,6751,7739,8797,9999,11406,12927,14657

A097057 Number of integer solutions to $a^2 + b^2 + 2c^2 + 2d^2 = n.$

$$\frac{\Gamma\left(\frac{5}{8}\right)^4 (3 + 2\sqrt{2})}{8 \pi \Gamma\left(\frac{7}{8}\right)^4 (\sqrt{2} - 2)}$$

1.1891739379710824544782999880984

1,4,8,16,24,24,32,32,24,52,48,48,96,56,64,96,24,72,104,80,144,128,96,96,96,124,112,
160,192,120,192,128,24,192,144,192,312,152,160,224,144,168,256,176,288,312,192,

192,96,228,248,288,336,216,320,288,192,320,240,240

A097242 Expansion of q -series $1 / (q^2, q^3, q^9, q^{10}; q^{12})_{\infty}$.

$$\frac{e^{-\frac{\pi}{24}} 2^{7/8} 3^{1/12} \Gamma\left(\frac{2}{3}\right)^{2/3} \Gamma\left(\frac{3}{4}\right)^{2/3} (\sqrt{2} (1 + \sqrt{3}))^{2/3}}{4 \pi^{1/3} \Gamma\left(\frac{11}{12}\right)^{2/3}}$$

1.0019517936255842155118110615631

1,0,1,1,1,1,2,1,2,3,3,3,5,4,6,7,7,8,11,10,13,15,16,18,23,22,27,31,33,37,45,45,53,60,64,
71,84,86,99,111,119,131,151,157,178,198,212,233,264,277,310,342,367,401,449,474,
525,576,618,673,746,790,869,949,1017,1104

A097243 Expansion of $1 + 32 * (\eta(q^4) / \eta(q))^8$ in powers of q .

3

3.

1,32,256,1408,6144,22976,76800,235264,671744,1809568,4640256,11404416,27009024,
61905088,137803776,298806528,632684544,1310891584,2662655232,5310231424,
10412576768,20098970624,38231811072,71734039808,132875747328,243175399136

A097340 McKay-Thompson series of class 4A for the Monster group with $a(0) = 24$.

$64 e^{-\pi}$

2.7656907688814239855627351789906

1,24,276,2048,11202,49152,184024,614400,1881471,5373952,14478180,37122048,
91231550,216072192,495248952,1102430208,2390434947,5061476352,10487167336,
21301241856,42481784514,83300614144

A097723 One fourth of sum of divisors of $4n+3$.

$$\frac{e^{\frac{3\pi}{4}} \pi 2^{1/4}}{16 \Gamma\left(\frac{3}{4}\right)^4}$$

1.0925327702793314551258561532671

1,2,3,6,5,6,10,8,12,14,11,12,18,18,15,26,17,18,31,20,21,30,28,30,39,26,27,38,36,36,42,
32,33,60,35,42,57,38,48,54,41,42,65,62,45,62,54,48,84,50,60,78,53,66,74,56,57,96,
72,60,91,70,63,108,76,66,90,68,93,104,71,84,98

A098613 Expansion of $\psi(x^2) / f(-x)$ in powers of x where $\psi()$, $f()$ are Ramanujan theta functions.

$$\frac{e^{\frac{5\pi}{24}} 2^{1/8}}{2}$$

1.0491650805793150925817384458497

1,1,3,4,7,10,17,23,35,48,69,93,131,173,236,310,413,536,704,903,1170,1489,1904,2403,
3044,3811,4784,5951,7409,9157,11325,13912,17095,20891,25519,31029,37708,
45632,55184,66495,80050,96064,115173,137680,164425,195860

A098884 Number of partitions of n into distinct parts in which each part is congruent to 1 or 5 mod 6.

$$\frac{2 e^{\frac{\pi}{12}} \pi^{1/3} 3^{11/12} \Gamma\left(\frac{11}{12}\right)^{2/3}}{3 \Gamma\left(\frac{2}{3}\right)^{2/3} \Gamma\left(\frac{3}{4}\right)^{2/3} (\sqrt{2} (1 + \sqrt{3}))^{2/3}}$$

1.0432140757715013973184249670107

1,1,0,0,0,1,1,1,1,0,0,1,2,2,1,0,1,2,3,3,2,1,1,3,5,5,3,1,2,5,7,7,5,3,3,7,11,11,7,4,6,11,15,
15,11,7,8,15,22,22,15,10,13,22,30,30,23,16,18,30,42,42,31,22,27,43,56,56,44,33,37,
57,77,77,59,45,53,79,101,101,82,64,71

A100130 Expansion of $(\eta(q) * \eta(q^4) / \eta(q^2)^2)^{24}$ in powers of q .

$$\frac{e^\pi}{64}$$

0.36157332238717607821451697449920

1,-24,300,-2624,18126,-105504,538296,-2471424,10400997,-40674128,149343012,
-519045888,1718732998,-5451292992,16633756008,-49010118656,139877936370,
-387749049720,1046413709980,-2754808758144,7087483527072

A100534 Number of partitions of $2*n$ into parts of two kinds.

$$\frac{2 e^{-\frac{\pi}{24}} \sqrt{\pi} 2^{3/8} \Gamma\left(\frac{7}{8}\right)^2}{\Gamma\left(\frac{5}{8}\right)^2 \sqrt{2 + \sqrt{2}}}$$

1.2593899752732958463945950915506

1,5,20,65,185,481,1165,2665,5822,12230,24842,49010,94235,177087,326015,589128,
1046705,1831065,3157789,5374390,9035539,15018300,24697480,40210481,

64854575,103679156,164363280,258508230,403531208,625425005

A100535 Number of partitions of $2*n + 1$ into parts of two kinds.

$$\frac{2 e^{\frac{11\pi}{24}} 2^{3/8} \sqrt{\pi} \Gamma\left(\frac{7}{8}\right)^2 \sqrt{2-\sqrt{2}}}{\Gamma\left(\frac{5}{8}\right)^2 (2+\sqrt{2})}$$

2.5094163516800144495466823063910

2,10,36,110,300,752,1770,3956,8470,17490,35002,68150,129512,240840,439190,
786814,1386930,2408658,4126070,6978730,11664896,19283830,31551450,51124970,
82088400,130673928,206327710,323275512,502810130

A101127 McKay-Thompson series of class 12D for the Monster group.

$$4 e^{-\frac{\pi}{3}}$$

1.4036792287136438702629468639878

1,8,28,64,134,288,568,1024,1809,3152,5316,8704,13990,22208,34696,53248,80724,
121240,180068,264448,384940,556064,796760,1132544,1598789,2243056,3127360,
4333568,5971922,8188096,11170160,15163392,20491033

A101277 Number of partitions of $2n$ in which all odd parts occur with multiplicity 2. There is no restriction on the even parts.

$$\frac{e^{-\frac{\pi}{12}} 2^{5/8} \Gamma\left(\frac{3}{4}\right)}{\pi^{1/4}}$$

1.0925518207240991591719766556223

1,2,3,6,10,16,25,38,57,84,121,172,243,338,465,636,862,1158,1546,2050,2702,3542,
4616,5986,7729,9932,12707,16196,20563,26010,32788,41194,51591,64418,80195,
99558,123269,152226,187514,230434,282519,345596,421844,513834

A102186 The PDO(n) function (Partitions with Designated summands in which all parts are Odd): the sum of products of multiplicities of parts in all partitions of n into odd parts.

$$\frac{2^{5/12} (\sqrt{2} (1+\sqrt{3}))^{1/3}}{2}$$

1.0472903270602300041947206342531

1,1,2,4,5,8,12,16,22,32,42,56,76,98,128,168,213,272,348,436,548,688,852,1056,1308,

1603,1964,2404,2920,3544,4296,5176,6230,7488,8958,10704,12772,15182,18024,
21368,25254,29808,35136,41308,48504,56880,66552,77776

A103258 G.f. = $\theta_4(0,x^4)/\theta_4(0,x)$.

$$\frac{2^{15/16}}{2(2-\sqrt{2})^{1/4}}$$

1.0945882885784591303209570822524

1,2,4,8,12,20,32,48,72,106,152,216,304,420,576,784,1056,1412,1876,2472,3240,4224,
5472,7056,9056,11566,14712,18640,23520,29572,37056,46272,57600,71488,88456,
109152,134332,164884,201888,246608,300528,365428,443392,536856

A104794 Expansion of $\theta_4(q)^2$ in powers of q .

$$\frac{\sqrt{\pi} \sqrt{2}}{2 \Gamma\left(\frac{3}{4}\right)^2}$$

0.83462684167407318628142973279900

1,-4,4,0,4,-8,0,0,4,-4,8,0,0,-8,0,0,4,-8,4,0,8,0,0,0,0,-12,8,0,0,-8,0,0,4,0,8,0,4,-8,0,0,8,-8,
0,0,0,-8,0,0,0,-4,12,0,8,-8,0,0,0,0,8,0,0,-8,0,0,4,-16,0,0,8,0,0,0,4,-8,8,0,0,0,0,8

A105094 Expansion of $8 * (\eta(q^2) / \eta(q)^2)^8$ in powers of q .

$$\frac{32 \Gamma\left(\frac{3}{4}\right)^8}{\pi^2}$$

16.486201240229170530855156770126

8,128,1152,7680,42112,200448,855552,3345408,12166272,41609856,134973184,
418023936,1242729984,3561814784,9877810176,26587137024,69636039808,
177877244160,443991342720,1084762764800,2598075516672

A105095 Expansion of $8*\eta(2*\tau)^8/\eta(\tau)^{16} + \eta(\tau/2)^8/\eta(\tau)^{16}$.

$$\frac{24 e^{-\frac{\pi}{2}} \sqrt{2} \Gamma\left(\frac{3}{4}\right)^8}{\pi^2}$$

3.6350357053230935306738012549830

1,36,402,3064,18351,93300,419150,1708632,6432867,22659976,75404754,238825344,
724242492,2113022844,5954784540,16263489048,43168780485,111630095424,
281807843656,695783026296,1682813702136,3992563842088

A106459 Expansion of $f(-x, -x^3)$ in powers of x where $f(,)$ is Ramanujan's general theta function.

$$\frac{e^{\frac{\pi}{8}} \pi^{1/4} 2^{1/4}}{2 \Gamma\left(\frac{3}{4}\right)}$$

0.95670538873109229271350443837855

1,-1,0,-1,0,0,1,0,0,0,1,0,0,0,0,-1,0,0,0,0,0,-1,0,0,0,0,0,1,0,0,0,0,0,0,1,0,0,0,0,0,0,0,
-1,0,0,0,0,0,0,0,0,0,-1,0,0,0,0,0,0,0,0,0,0,1,0,0,0,0,0,0,0,0,0,0,1,0,0,0,0,0,0,0,0,0,
0,0,-1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0

A106507 G.f.: $\text{Product}_{\{k>0\}} (1-x^{(2k-1)})/(1-x^{(2k)})$.

$$\frac{e^{-\frac{\pi}{8}} 2^{5/8} \Gamma\left(\frac{3}{4}\right)}{\pi^{1/4}}$$

0.95850201536015369003375173415550

1,-1,1,-2,3,-4,5,-7,10,-13,16,-21,28,-35,43,-55,70,-86,105,-130,161,-196,236,-287,350,
-420,501,-602,722,-858,1016,-1206,1431,-1687,1981,-2331,2741,-3206,3740,-4368,
5096,-5922,6868,-7967,9233,-10670,12306,-14193

A106508 Expansion of $\text{psi}(x)^4 * \text{chi}(-x^2)^2$ in powers of x where $\text{psi}()$, $\text{chi}()$ are Ramanujan theta functions.

$$\frac{e^{\frac{\pi}{3}} \pi 2^{1/4}}{4 \Gamma\left(\frac{3}{4}\right)^4}$$

1.1803323664982101431739010419637

1,4,4,0,2,0,-8,0,-5,-16,4,0,-10,0,-8,0,9,8,0,0,14,0,16,0,-10,32,4,0,0,0,8,0,14,-20,-20,0,2,
0,0,0,-11,-16,-20,0,-32,0,16,0,0,-40,4,0,14,0,-8,0,-9,32,-20,0,26,0,0,0,2,36,28,0,0,0,
16,0,16,0,28,0,-22,0,0,0,14,56,-16,0,0,0,-40,0,0

A107033 Expansion of $f(x, x) * f(x, -x^2)$ in powers of x where $f(,)$ is a Ramanujan theta function.

$$\frac{99 e^{\frac{\pi}{24}} \Gamma\left(\frac{7}{12}\right)^{17/4} \Gamma\left(\frac{2}{3}\right)^{21/2} 3^{3/8} 2^{1/8} \left(\sqrt{3} + \frac{19}{11}\right)}{256 \pi^{19/4} \Gamma\left(\frac{11}{12}\right)^{25/4} (\sqrt{2} (\sqrt{3} - 1))^{1/4}}$$

1.1313548975189670325119875693026

1,3,1,-2,2,1,-4,-1,-2,0,2,-4,-1,-2,-2,1,0,2,-2,2,0,-4,1,0,2,2,5,0,-2,0,0,4,-2,0,0,3,4,0,0,2,1,
-4,2,-2,0,0,0,2,-2,0,2,3,-2,0,-2,-2,-4,-1,0,0,0,-4,2,0,4,0,-4,-2,0,-2,-1,0,0,-2,-2,2,-6,1,2,
0,0,4,0,-2,2,0,0,-2,-2,-2,2,0,1,0,0,-2,4,0,0,2,1,6,0,2,0

A107035 Expansion of $q * (\psi(q^4) / \phi(-q))^2$ in powers of q where $\phi()$, $\psi()$ are Ramanujan theta functions.

$$- \frac{e^{\pi \sqrt{2}} (\sqrt{2} - 2)}{16}$$

1.1981485914005421027188629210841

1,4,12,32,78,176,376,768,1509,2872,5316,9600,16966,29408,50088,83968,138738,
226196,364284,580032,913824,1425552,2203368,3376128,5130999,7738136,
11585208,17225472,25444278,37350816,54504160,79085568

A107080 McKay-Thompson series of class 4A for the Monster group.

$$40 e^{-\pi}$$

1.7285567305508899909767094868691

1,0,276,2048,11202,49152,184024,614400,1881471,5373952,14478180,37122048,
91231550,216072192,495248952,1102430208,2390434947,5061476352,10487167336,
21301241856,42481784514,83300614144,160791890304,305854488576,
573872089212,1063005978624,1945403602764,3519965179904

A107635 McKay-Thompson series of class 32a for the Monster group.

$$e^{-\frac{\pi}{8}} 2^{3/4}$$

1.1356001795435477109562975967771

1,3,3,4,9,12,15,21,30,43,54,69,94,123,153,193,252,318,391,486,609,754,918,1119,1376,
1680,2019,2432,2946,3540,4220,5034,6015,7157,8463,9999,11835,13956,16374,
19206,22542,26376,30750,35829,41745,48526,56250

A107653 Expansion of $q / (\chi(q) * \chi(q^3))^6$ in powers of q where $\chi()$ is a Ramanujan theta function.

$$-\frac{3 e^{\pi} \pi^2 \Gamma\left(\frac{11}{12}\right)^{10} \Gamma\left(\frac{7}{12}\right)^6 (-7+4 \sqrt{3})}{16 \Gamma\left(\frac{2}{3}\right)^4 \Gamma\left(\frac{3}{4}\right)^{16}}$$

0.77506623790625448524112922266776

1,-6,21,-68,198,-510,1248,-2904,6393,-13604,28044,-55956,108982,-207552,386622,
-707216,1271970,-2250582,3925780,-6757272,11483232,-19290824,32057352,
-52722744,85884503,-138644292,221885805,-352241792,554892894

A108494 Expansion of $f(-q) / f(q)$ in powers of q where $f()$ is a Ramanujan theta function.

$$\frac{2^{7/8}}{2}$$

0.91700404320467123174354159479415

1,-2,2,-4,6,-8,12,-16,22,-30,40,-52,68,-88,112,-144,182,-228,286,-356,440,-544,668,
-816,996,-1210,1464,-1768,2128,-2552,3056,-3648,4342,-5160,6116,-7232,8538,
-10056,11820,-13872,16248,-18996,22176,-25844,30068,-34936,40528

A108563 Number of representations of n as sum of twice a square plus thrice a square.

$$\frac{2^{1/12} \sqrt{3} \sqrt{\Gamma\left(\frac{5}{6}\right) \Gamma\left(\frac{5}{8}\right)} (1+\sqrt{3}) (1+\sqrt{2})}{12 \pi^{1/4} \Gamma\left(\frac{7}{8}\right) \Gamma\left(\frac{11}{12}\right)}$$

1.0038968873297938671388676578162

1,0,2,2,0,4,0,0,2,0,0,4,2,0,4,0,0,0,2,0,4,4,0,0,0,0,0,2,0,4,4,0,2,0,0,8,0,0,0,0,0,0,0,4,4,
0,0,2,0,6,0,0,4,0,0,4,0,0,4,0,0,4,0,0,0,4,0,0,0,0,0,2,0,0,6,0,8,0,0,4,0,0,4,4,0,0,0,0,0,0,
0,0,4,0,0,0,0,6,4,0,4

A108961 Number of partitions that are 2-close to being self-conjugate.

$$\frac{e^{-\frac{\pi}{24}} 2^{1/16}}{(2-\sqrt{2})^{1/4}}$$

1.0472021660901607007440105150552

1,1,2,3,3,5,7,9,12,16,20,26,33,41,51,64,79,97,119,144,175,212,254,305,365,434,516,
612,722,851,1002,1174,1375,1607,1872,2179,2531,2933,3395,3923,4524,5211,5994,
6881,7891,9038,10334,11804,13467,15341,17460,19849

A111938 $a(n) = n$ times number of divisors of n of form $4m+1$ - n times number of divisors

of form $4m+3$.

$$\frac{e^{\pi}}{8\sqrt{\pi}\Gamma\left(\frac{3}{4}\right)^2}$$

1.0867855103927686573850621394977

1,2,0,4,10,0,0,8,9,20,0,0,26,0,0,16,34,18,0,40,0,0,0,0,75,52,0,0,58,0,0,32,0,68,0,36,74,0,
0,80,82,0,0,0,90,0,0,0,49,150,0,104,106,0,0,0,0,116,0,0,122,0,0,64,260,0,0,136,0,0,0,
72,146,148,0,0,0,0,0,160,81,164

A112142 McKay-Thompson series of class 8B for the Monster group.

$$8e^{-\frac{\pi}{2}}$$

1.6630366108060952683756449586798

1,12,66,232,639,1596,3774,8328,17283,34520,66882,125568,229244,409236,716412,
1231048,2079237,3459264,5677832,9200232,14729592,23325752,36567222,
56778888,87369483,133315692,201825420,303257512

A112143 McKay-Thompson series of class 8D for the Monster group.

$$4e^{-\frac{\pi}{2}}$$

0.83151830540304763418782247933992

1,-4,2,8,-1,-20,-2,40,3,-72,2,128,-4,-220,-4,360,5,-576,8,904,-8,-1384,-10,2088,11,
-3108,12,4552,-15,-6592,-18,9448,22,-13392,26,18816,-29,-26216,-34,36224,38,
-49700,42,67728,-51,-91688,-56,123392,66,-165128,78,219784,-85,-291072

A112150 McKay-Thompson series of class 16a for the Monster group.

$$2e^{-\frac{\pi}{4}}\sqrt{2}$$

1.2895877677793377970094677382405

1,6,15,26,51,102,172,276,453,728,1128,1698,2539,3780,5505,7882,11238,15918,22259,
30810,42438,58110,78909,106392,142770,190698,253179,334266,439581,575784,
750613,974316,1260336,1624702,2086530,2670162,3406695,4333590

A112158 McKay-Thompson series of class 20A for the Monster group.

$$\frac{64 e^{-\pi} 2^{4/5} \sqrt{5} \Gamma\left(\frac{9}{10}\right)^4 \Gamma\left(\frac{7}{10}\right)^4 (5 + \sqrt{5})^4 \left(\frac{\sqrt{5}}{4} - \frac{1}{4}\right)^4 \left(\frac{\sqrt{5}}{4} + \frac{1}{4}\right)^4}{125 \Gamma\left(\frac{4}{5}\right)^8}$$

1.0119147355092091259333126952055

1,0,6,8,17,32,54,80,116,192,290,408,585,832,1192,1648,2237,3072,4156,5576,7414,
9824,12964,16896,22002,28544,36794,47184,60185,76736,97388,122864,154615,
194048,242904,302800,376271,466720,577176,711840

A112160 McKay-Thompson series of class 24E for the Monster group.

$$2 e^{-\frac{\pi}{6}}$$

1.1847696943767779673308326653238

1,4,6,8,17,28,38,56,84,124,172,232,325,448,594,784,1049,1388,1796,2320,3005,3864,
4912,6216,7877,9940,12430,15488,19309,23972,29580,36408,44766,54876,66978,
81536,99150,120272,145374,175344,211242

A112162 McKay-Thompson series of class 24b for the Monster group.

$$\frac{3 \Gamma\left(\frac{2}{3}\right)^2 \Gamma\left(\frac{7}{12}\right)^2 (2 + \sqrt{3}) e^{-\frac{\pi}{2}}}{2 \pi \Gamma\left(\frac{3}{4}\right)^2}$$

1.0570509142804448872645023380300

1,1,7,9,10,23,38,47,75,112,148,217,293,385,553,728,928,1272,1670,2111,2765,3566,
4504,5784,7300,9123,11592,14458,17838,22342,27668,33884,41843,51344,62548,
76515,92989,112514,136687,164961,198190

A112173 McKay-Thompson series of class 36b for the Monster group.

$$e^{-\frac{\pi}{3}} 2^{1/3} (\sqrt{2} (1 + \sqrt{3}))^{2/3}$$

1.0886469501390631107818914990847

1,2,1,4,8,6,10,16,18,26,33,40,58,74,82,112,147,166,212,268,316,392,476,560,695,838,
967,1184,1430,1648,1970,2352,2731,3236,3803,4404,5206,6080,6984,8192,9553,
10942,12709,14736,16886,19506,22448,25648

A112179 McKay-Thompson series of class 40B for the Monster group.

$$\frac{e^{-\frac{\pi}{2}} (5 + \sqrt{5})^2}{10}$$

1.0884715929064470192481318544089

1,2,1,2,4,6,9,8,13,20,22,28,34,46,57,68,87,104,127,152,187,232,267,318,388,462,545,
632,753,896,1043,1216,1416,1664,1928,2228,2597,2996,3454,3976,4585,5286,6031,
6900,7918,9060,10325,11720,13372,15228

A112180 McKay-Thompson series of class 40a for the Monster group.

$$\frac{8 e^{-\frac{\pi}{2}} 2^{2/5} 5^{3/4} \Gamma\left(\frac{9}{10}\right)^2 \Gamma\left(\frac{7}{10}\right)^2 (5 + \sqrt{5})^2 \left(\frac{\sqrt{5}}{4} - \frac{1}{4}\right)^2 \left(\frac{\sqrt{5}}{4} + \frac{1}{4}\right)^2}{25 \Gamma\left(\frac{4}{5}\right)^4}$$

1.0059397275727851111129394294677

1,0,3,4,4,4,7,12,13,16,22,28,38,44,55,72,83,104,129,156,187,220,273,328,384,452,539,
652,757,880,1041,1220,1428,1652,1924,2244,2585,2992,3458,3992,4581,5244,6053,
6936,7910,9024,10303,11784,13380,15176

A112206 Coefficients of replicable function number 72b.

$$\frac{e^{-\frac{\pi}{6}} \sqrt{2} 3^{1/12} \Gamma\left(\frac{2}{3}\right)^{2/3} \Gamma\left(\frac{3}{4}\right)^{2/3} (\sqrt{2} (1 + \sqrt{3}))^{2/3}}{2 \pi^{1/3} \Gamma\left(\frac{11}{12}\right)^{2/3}}$$

1.0433824563117127238167433193334

1,1,0,2,2,1,2,2,3,4,4,4,7,7,6,10,11,11,14,16,17,21,22,24,32,34,34,44,49,50,60,66,72,84,
90,98,117,125,132,156,171,181,206,226,245,277,298,322,369,397,422,480,522,557,
620,674,728,807,868,936,1043,1121,1198

A112209 McKay-Thompson series of class 80a for the Monster group.

$$\frac{4 e^{-\frac{\pi}{4}} 2^{9/10} \sqrt{5} \Gamma\left(\frac{9}{10}\right)^2 \Gamma\left(\frac{7}{10}\right)^2 (5 + \sqrt{5})^2 \left(\frac{\sqrt{5}}{4} - \frac{1}{4}\right)^2 \left(\frac{\sqrt{5}}{4} + \frac{1}{4}\right)^2}{25 \Gamma\left(\frac{4}{5}\right)^4}$$

1.0432984198715375315298710260690

1,1,0,1,1,2,2,1,3,3,3,3,4,5,5,7,8,8,9,10,13,15,14,17,20,23,24,26,31,34,38,41,46,52,55,62,
70,75,82,90,103,112,118,131,145,161,172,185,208,225,244,265,288,316,339,370,404,
435,469,507,557,601,640,696,755,818

A112603 Number of representations of n as the sum of a square and a triangular number.

$$\frac{e^{\frac{\pi}{8}} \sqrt{\pi} 2^{3/8}}{2 \Gamma\left(\frac{3}{4}\right)^2}$$

1.1334715981844691645647981440564

1,3,2,1,4,2,1,4,0,2,5,2,2,0,2,3,4,2,0,6,0,1,4,0,2,4,4,0,3,2,2,4,2,0,0,2,3,8,0,2,4,0,2,0,2,3,
6,0,0,4,2,2,4,2,2,3,2,2,0,4,0,4,0,0,8,2,1,4,0,0,8,2,2,0,2,2,0,2,1,4,2,4,6,0,2,4,0,4,0,0,0,
7,4,0,4,2,2,0,0,0,6,2,4,4,2

A112604 Number of representations of n as a sum of three times a square and two times a triangular number.

$$\frac{e^{\frac{\pi}{4}} 2^{1/4} \sqrt{3} \Gamma\left(\frac{2}{3}\right) \Gamma\left(\frac{11}{12}\right)^2 \Gamma\left(\frac{7}{12}\right)^3 (1 + \sqrt{3})}{16 \Gamma\left(\frac{3}{4}\right)^7}$$

1.0020291496837670365407161500541

1,0,1,2,0,2,1,0,0,2,0,0,3,0,2,2,0,0,2,0,1,0,0,2,2,0,0,2,0,2,1,0,2,4,0,0,0,0,0,2,0,0,3,0,0,2,
0,2,2,0,2,0,0,0,4,0,1,2,0,2,2,0,0,0,0,0,0,0,4,2,0,0,1,0,0,4,0,2,2,0,0,2,0,2,2,0,0,2,0,0,3,
0,0,2,0,2,0,0,0,2,0,0,2,0,2

A112610 Number of representations of n as a sum of two squares and two triangular numbers.

$$\frac{e^{\frac{\pi}{4}} \pi 2^{3/4}}{4 \Gamma\left(\frac{3}{4}\right)^4}$$

1.2847578638908547215160023264570

1,6,13,14,18,32,31,30,48,38,42,78,57,54,80,62,84,96,74,96,121,108,90,128,98,102,192,
110,114,182,133,156,176,160,138,192,180,150,234,158,192,288,183,174,240,182,
228,320,194,198,272,252,240,288,256,252,403,230

A113185 Expansion of $(5*\phi(q)*\phi^3(q^5) - \phi^3(q)*\phi(q^5))/4$ in powers of q where $\phi(q)$ is a Ramanujan theta function.

$$\frac{\pi 2^{2/5} \Gamma\left(\frac{9}{10}\right)^2 \Gamma\left(\frac{7}{10}\right)^2 \left(\frac{\sqrt{5}}{4} - \frac{1}{4}\right)^2 \left(\frac{\sqrt{5}}{4} + \frac{1}{4}\right)^2 (\sqrt{5} \sqrt{2} \sqrt{5+\sqrt{5}})^{11/2}}{1250 \Gamma\left(\frac{3}{4}\right)^4 \Gamma\left(\frac{4}{5}\right)^4 (\sqrt{2} \sqrt{5} \sqrt{5-\sqrt{5}})^{3/2}}$$

1.0374538663819946455328385984304

1,1,-3,-2,1,1,6,-6,-7,7,-3,12,-2,-12,18,-2,9,-16,-21,20,1,12,-36,-22,14,1,36,-20,-6,30,6,
32,-23,-24,48,-6,7,-36,-60,24,-7,42,-36,-42,12,7,66,-46,-18,43,-3,32,-12,-52,60,12,42,
-40,-90,60,-2,62,-96,-42,41,-12,72,-66,-16,44,18,72,-49,-72,108,-2,20

A113261 Expansion of $(9*\phi(q)*\phi(q^3)^5 - \phi(q)^5*\phi(q^3))/8$ in powers of q where $\phi(q)$ is a Ramanujan theta function.

$$\frac{3^{3/4} \Gamma\left(\frac{2}{3}\right)^3 \Gamma\left(\frac{7}{12}\right)^3 (1+\sqrt{3})^3}{64 \Gamma\left(\frac{3}{4}\right)^9}$$

1.0339921289151129307577834521492

1,1,-5,1,11,-24,-5,50,-53,1,120,-120,11,170,-250,-24,203,-288,-5,362,-264,50,600,-528,
-53,601,-850,1,550,-840,120,962,-821,-120,1440,-1200,11,1370,-1810,170,1272,
-1680,-250,1850,-1320,-24,2640,-2208,203,2451,-3005,-288,1870,-2808

A113277 Expansion of $q^{(-1/3)} * \eta(q^2)^5 / \eta(q)^2$ in powers of q .

$$\frac{e^{\frac{\pi}{3}} \pi^{3/4} 2^{1/4}}{4 \Gamma\left(\frac{3}{4}\right)^3}$$

1.0864272336598265599769799575192

1,2,0,0,0,-4,0,0,-5,0,0,0,0,0,0,7,0,0,0,0,8,0,0,0,0,0,0,0,0,0,0,-10,0,0,0,0,0,0,-11,0,0,
0,0,0,0,0,0,0,0,0,0,0,0,0,0,13,0,0,0,0,0,0,0,0,0,14,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,
-16,0,0,0,0,0,0,0,0,0,0,-17,0,0,0,0

A113298 Expansion of $q^{(1/12)} * \eta(q^{10})^5 / (\eta(q^2) * \eta(q^5)^2 * \eta(q^{20})^2)$ in powers of q .

$$\frac{16 e^{-\frac{\pi}{12}} 2^{1/10} 5^{1/4} \Gamma\left(\frac{9}{10}\right)^3 \Gamma\left(\frac{7}{10}\right)^3 (5+\sqrt{5})^3 \left(\frac{\sqrt{5}}{4} - \frac{1}{4}\right)^3 \left(\frac{\sqrt{5}}{4} + \frac{1}{4}\right)^3}{125 \Gamma\left(\frac{4}{5}\right)^6}$$

1.0018747389830409139315781967752

1,0,1,0,2,2,3,2,5,4,7,6,11,10,15,14,22,22,30,30,44,44,58,60,81,84,107,112,145,154,190,
202,253,270,327,352,429,462,550,594,711,770,904,980,1156,1256,1457,1586,1845,
2008,2310,2516,2898,3160,3604,3930,4488,4894

A113407 Expansion of $\psi(x) * \phi(x^2)$ in powers of x where $\psi()$, $\phi()$ are Ramanujan theta functions.

$$\frac{e^{\frac{\pi}{8}} 2^{7/8} \Gamma\left(\frac{5}{8}\right)^2 (2 + \sqrt{2})^{3/2}}{16 \sqrt{\pi} \Gamma\left(\frac{7}{8}\right)^2}$$

1.0471912102454884380257214262836

1,1,2,3,0,2,1,0,4,2,1,2,2,0,2,1,0,2,4,2,0,3,0,4,2,0,0,0,3,2,2,0,2,4,0,2,3,0,4,2,0,0,2,0,2,1,
2,4,0,0,2,2,0,6,2,1,2,2,0,0,4,0,0,4,0,2,1,0,4,0,0,2,2,4,2,2,0,2,5,0,2,0,2,0,2,0,4,4,0,0,0,
1,0,4,0,2,2,0,4,4,2,2,0,0,2

A113411 Excess of number of divisors of $2n+1$ of form $8k+1$, $8k+3$ over those of form $8k+5$, $8k+7$.

$$\frac{e^{\frac{\pi}{2}} \sqrt{2} \Gamma\left(\frac{5}{8}\right)^2 (2 + \sqrt{2}) \sqrt{2 - \sqrt{2}}}{16 \sqrt{\pi} \Gamma\left(\frac{7}{8}\right)^2}$$

1.0864385999834424647454267240411

1,2,0,0,3,2,0,0,2,2,0,0,1,4,0,0,4,0,0,0,2,2,0,0,1,4,0,0,4,2,0,0,0,2,0,0,2,2,0,0,5,2,0,0,2,0,
0,0,2,6,0,0,0,2,0,0,2,0,0,0,3,4,0,0,4,2,0,0,2,2,0,0,0,2,0,0,6,0,0,0,0,2,0,0,1,6,0,0,4,2,0,
0,0,4,0,0,2,0,0,0,4,0,0,0,4

A113416 Expansion of $\eta(q^2)^7 \eta(q^4) / (\eta(q) \eta(q^8)^2)$ in powers of q .

$$\frac{2^{3/4} \Gamma\left(\frac{5}{8}\right)^4 (3 + 2\sqrt{2}) \sqrt{2 + \sqrt{2}}}{16 \pi \Gamma\left(\frac{7}{8}\right)^4}$$

1.0823620032309893995018017026332

1,2,-2,-4,-2,-8,4,16,-2,14,8,-20,4,-24,-16,16,-2,36,-14,-36,8,-32,20,48,4,42,24,-40,-16,
-56,-16,64,-2,40,-36,-64,-14,-72,36,48,8,84,32,-84,20,-56,-48,96,4,114,-42,-72,24,
-104,40,80,-16,72,56,-116,-16,-120,-64,112,-2,96,-40,-132,-36,-96,64,144,-14

A113417 Expansion of $\phi(x) * \phi(-x)^2 * \psi(x^4)$ in powers of x where $\phi()$, $\psi()$ are

Ramanujan theta functions.

$$\frac{e^{\frac{\pi}{2}} \sqrt{2} \Gamma\left(\frac{5}{8}\right)^4 (3 + 2\sqrt{2}) \sqrt{2 - \sqrt{2}}}{32 \pi \Gamma\left(\frac{7}{8}\right)^4}$$

0.90677081737698236544570411023784

1,-2,-4,8,7,-10,-12,8,18,-18,-16,24,21,-20,-28,32,20,-32,-36,24,42,-42,-28,48,57,-36,-52,
40,36,-58,-60,56,48,-66,-48,72,74,-42,-80,80,61,-82,-72,56,90,-96,-64,72,98,-70,-100,
104,64,-106,-108,72,114,-96

A113419 Expansion of $\phi(x)^2 * \phi(-x) * \psi(x^4)$ in powers of x where $\phi()$, $\psi()$ are Ramanujan theta functions.

$$\frac{e^{\frac{\pi}{2}} 2^{3/4} \Gamma\left(\frac{5}{8}\right)^4 (3 + 2\sqrt{2}) \sqrt{2 - \sqrt{2}}}{32 \pi \Gamma\left(\frac{7}{8}\right)^4}$$

1.0783383077015404501091262247498

1,2,-4,-8,7,10,-12,-8,18,18,-16,-24,21,20,-28,-32,20,32,-36,-24,42,42,-28,-48,57,36,-52,
-40,36,58,-60,-56,48,66,-48,-72,74,42,-80,-80,61,82,-72,-56,90,96,-64,-72,98,70,-100,
-104,64,106,-108,-72,114,96

A113447 Expansion of $i * \theta_2(i * q^3)^3 / (4 * \theta_2(i * q))$ in powers of q^2 .

$$\frac{e^{\pi} \pi^2 \sqrt{3} \Gamma\left(\frac{11}{12}\right)^3 \sqrt{2} (\sqrt{3} - 1)^3}{36 \Gamma\left(\frac{2}{3}\right)^3 \Gamma\left(\frac{3}{4}\right)^5}$$

1.0450008254980492546672197316260

1,1,1,-1,0,1,2,1,1,0,0,-1,2,2,0,-1,0,1,2,0,2,0,0,1,1,2,1,-2,0,0,2,1,0,0,0,-1,2,2,2,0,0,2,2,0,
0,0,0,-1,3,1,0,-2,0,1,0,2,2,0,0,0,2,2,2,-1,0,0,2,0,0,0,0,1,2,2,1,-2,0,2,2,0,1,0,0,-2,0,2,0,
0,0,0,4,0,2,0,0,1,2,3,0,-1,0,0,2,2,0

A113660 Expansion of $\phi(x)^3 / \phi(x^3)$ where $\phi()$ is a Ramanujan theta function.

$$\frac{2 \pi \sqrt{3} \Gamma\left(\frac{3}{4}\right)^3 \sqrt{2} (\sqrt{3} - 1)}{3 \Gamma\left(\frac{2}{3}\right) \Gamma\left(\frac{11}{12}\right)^2 \Gamma\left(\frac{7}{12}\right)^3}$$

1.2821561770895734610262231230392

1,6,12,6,-6,0,12,12,12,6,0,0,-6,12,24,0,-6,0,12,12,0,12,0,0,12,6,24,6,-12,0,0,12,12,0,0,0,
-6,12,24,12,0,0,24,12,0,0,0,0,-6,18,12,0,-12,0,12,0,24,12,0,0,0,12,24,12,-6,0,0,12,0,
0,0,0,12,12

A113973 Expansion of $\phi(x^3)^3/\phi(x)$ where $\phi()$ is a Ramanujan theta function.

$$\frac{3^{1/4} \Gamma\left(\frac{2}{3}\right)^3 \Gamma\left(\frac{3}{4}\right) (1+\sqrt{3})^3}{24 \pi \Gamma\left(\frac{11}{12}\right)^3}$$

0.92088753502039563375506694374634

1,-2,4,-2,2,0,4,-4,4,-2,0,0,2,-4,8,0,2,0,4,-4,0,-4,0,0,4,-2,8,-2,4,0,0,-4,4,0,0,0,2,-4,8,-4,0,
0,8,-4,0,0,0,0,2,-6,4,0,4,0,4,0,8,-4,0,0,0,-4,8,-4,2,0,0,-4,0,0,0,0,4,-4,8,-2,4,0,8,-4,0,
-2,0,0,4,0,8,0,0,0,0,-8,0,-4,0,0,4,-4,12,0,2,0,0,-4,8

A114855 Expansion of $q^{(-1/3)} * (\eta(q) * \eta(q^4))^2 / \eta(q^2)$ in powers of q .

$$\frac{e^{\frac{\pi}{3}} \pi^{3/4}}{4 \Gamma\left(\frac{3}{4}\right)^3}$$

0.91357276621855787293099760696898

1,-2,0,0,0,4,0,0,-5,0,0,0,0,0,0,7,0,0,0,0,-8,0,0,0,0,0,0,0,0,0,0,10,0,0,0,0,0,0,-11,0,0,
0,0,0,0,0,0,0,0,0,0,0,0,0,13,0,0,0,0,0,0,0,-14,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,
16,0,0,0,0,0,0,0,0,0,0,-17,0,0,0,0

A115110 Expansion of $q^{(-1/24)} * \eta(q)^3 / \eta(q^2)$ in powers of q .

$$\frac{e^{\frac{\pi}{24}} \sqrt{\pi} 2^{3/8}}{2 \Gamma\left(\frac{3}{4}\right)^2}$$

0.87239388516602122452490081894215

1,-3,1,2,2,-1,-4,1,-2,0,2,4,-1,2,-2,-1,0,-2,-2,-2,0,4,1,0,2,-2,5,0,-2,0,0,-4,-2,0,0,-3,4,0,0,
-2,1,4,2,2,0,0,0,-2,-2,0,2,-3,-2,0,-2,2,-4,1,0,0,0,4,2,0,4,0,-4,2,0,2,-1,0,0,2,-2,-2,-6,-1,
2,0,0,-4,0,2,2,0,0,2,-2,2,2,0,1,0,0,2,4,0,0,-2,1,-6,0,-2,0

A115607 Sum of odd divisors of n times $(-1)^{(n+1)}$.

$$\frac{e^{\pi}}{24}$$

0.96419552636580287523871193199788

1,-1,4,-1,6,-4,8,-1,13,-6,12,-4,14,-8,24,-1,18,-13,20,-6,32,-12,24,-4,31,-14,40,-8,30,-24,
32,-1,48,-18,48,-13,38,-20,56,-6,42,-32,44,-12,78,-24,48,-4,57,-31,72,-14,54,-40,72,
-8,80,-30,60,-24,62,-32,104,-1,84,-48,68,-18,96,-48,72,-13,74,-38,124

A115977 Expansion of elliptic modular function lambda in powers of the nome q.

$$\frac{e^{\pi}}{2}$$

11.570346316389634502864543183974

16,-128,704,-3072,11488,-38400,117632,-335872,904784,-2320128,5702208,-13504512,
30952544,-68901888,149403264,-316342272,655445792,-1331327616,2655115712,
-5206288384,10049485312,-19115905536,35867019904,-66437873664

A116498 Expansion of psi(-q)/psi(-q^2) in powers of q where psi() is a Ramanujan theta function.

$$\frac{e^{-\frac{\pi}{8}} 2^{5/16}}{(2 - \sqrt{2})^{1/4}}$$

0.95849533011080033573571928133427

1,-1,1,-2,1,-2,3,-3,4,-5,6,-7,8,-9,11,-13,16,-18,21,-24,27,-32,36,-41,48,-54,61,-70,78,
-88,100,-112,127,-143,159,-179,199,-222,248,-276,308,-342,380,-421,465,-516,570,
-629,697,-767,845,-932,1022,-1124,1236,-1355,1488,-1631,1785,-1954,2136

A116597 Expansion of theta_3(q) * theta_4(q^4)^2 in powers of q.

$$\frac{2^{5/8} \Gamma\left(\frac{5}{8}\right)^3 (2 + \sqrt{2})^2}{16 \pi^{3/4} \Gamma\left(\frac{7}{8}\right)^3}$$

1.0864196561856213524754760162930

1,2,0,0,-2,-8,0,0,-4,10,0,0,8,-8,0,0,6,16,0,0,-8,-16,0,0,-8,10,0,0,0,-24,0,0,12,16,0,0,-10,
-8,0,0,-8,32,0,0,24,-24,0,0,8,18,0,0,-8,-24,0,0,-16,16,0,0,0,-24,0,0,6,32,0,0,-16,-32,0,
0,-12,16,0,0,24,-32,0,0,24,34,0,0,-16,-16,0,0,-8,48

A117410 Expansion of q^(-5/24) * eta(q^2)^3 / eta(q) in powers of q.

$$\frac{e^{\frac{5\pi}{24}} \sqrt{\pi} 2^{7/8}}{4 \Gamma\left(\frac{3}{4}\right)^2}$$

1.0413426930051003594442011864023

1,1,-1,0,-1,-2,1,-1,-1,0,1,1,-1,1,0,2,1,0,0,-1,2,1,0,-1,0,-1,0,-1,1,1,-3,0,-1,-1,-1,1,0,0,0,-1,
-2,0,1,0,1,0,1,0,0,-1,2,-1,0,1,1,3,0,-1,0,1,-1,0,1,0,0,2,0,1,-1,0,-2,-1,1,0,0,-1,0,0,1,-1,
0,-1,-1,-1,0,-2,-1,0,2,1,-2,0,1,-1,0,-2,-1,1,-1,1,0,0,0,1,0

A120030 Expansion of $\theta_4(q)^2 \theta_4(q^2)^4$ in powers of q .

$$\frac{\pi^3/2}{2 \Gamma\left(\frac{3}{4}\right)^6}$$

0.82222758045838551553472282145705

1,-4,-4,32,-4,-104,32,192,-4,-292,-104,480,32,-680,192,832,-4,-1160,-292,1440,-104,
-1536,480,2112,32,-2604,-680,2624,192,-3368,832,3840,-4,-3840,-1160,4992,-292,
-5480,1440,5440,-104,-6728,-1536,7392,480,-7592,2112,8832,32,-9412,-2604

A121361 Expansion of $f(x^1, x^5) * \psi(x^2)$ in powers of x where $\psi()$, $f()$ are Ramanujan theta functions.

$$\frac{e^{\frac{7\pi}{12}} \pi 2^{1/4} \sqrt{3} \Gamma\left(\frac{11}{12}\right) (\sqrt{3} - 1)}{12 \Gamma\left(\frac{2}{3}\right) \Gamma\left(\frac{3}{4}\right)^3}$$

1.0451622183022292032470464825192

1,1,1,1,0,1,1,2,1,0,1,1,1,1,1,0,1,1,1,0,2,2,1,1,0,1,0,1,2,0,1,1,0,2,0,2,1,0,1,1,1,1,2,1,0,1,
2,1,0,0,1,1,1,1,0,0,2,1,2,0,1,1,1,2,1,1,0,1,1,0,1,1,2,1,0,1,1,3,0,0,1,0,1,0,0,2,1,1,1,1,1,
2,0,1,0,2,2,1,3,0,0,0,1,0,0

A121373 Expansion of $f(x) = f(x, -x^2)$ in powers of x where $f()$ is Ramanujan's general theta function.

$$\frac{e^{\frac{\pi}{24}} \pi^{1/4} 2^{3/4}}{2 \Gamma\left(\frac{3}{4}\right)}$$

1.0413463245489098337968819357004

1,1,-1,0,0,-1,0,-1,0,0,0,0,-1,0,0,1,0,0,0,0,0,0,1,0,0,0,1,0,0,0,0,0,0,0,1,0,0,0,0,-1,0,0,0,
0,0,0,0,0,0,0,-1,0,0,0,0,0,-1,0,0,0,0,0,0,0,0,0,0,0,0,-1,0,0,0,0,0,0,1,0,0,0,0,0,0,0,0,0,

0,0,0,0,0,1,0,0,0,0,0,0,0,1,0,0,0,0

A121455 Expansion of $q^*(\phi(-q)\psi(q^4))^2$ in powers of q where $\phi()$, $\psi()$ are Ramanujan theta functions.

$$\frac{e^{\pi\sqrt{2}}\Gamma\left(\frac{5}{8}\right)^4(2+\sqrt{2})}{128\pi\Gamma\left(\frac{7}{8}\right)^4}$$

0.83463266294329681661269696061789

1,-4,4,0,6,-16,8,0,13,-24,12,0,14,-32,24,0,18,-52,20,0,32,-48,24,0,31,-56,40,0,30,-96,32,
0,48,-72,48,0,38,-80,56,0,42,-128,44,0,78,-96,48,0,57,-124,72,0,54,-160,72,0,80,
-120,60,0,62,-128,104,0,84,-192,68,0,96,-192,72,0,74,-152

A121456 Expansion of $q^*(\psi(-q)\psi(-q^3))^2$ in powers of q where $\psi()$ is a Ramanujan theta function.

$$-\frac{e^{\pi}\pi^2\Gamma\left(\frac{11}{12}\right)^2(-2+\sqrt{3})}{12\Gamma\left(\frac{2}{3}\right)^2\Gamma\left(\frac{3}{4}\right)^6}$$

0.91513748063857091523877677007841

1,-2,1,-4,6,-2,8,-8,1,-12,12,-4,14,-16,6,-16,18,-2,20,-24,8,-24,24,-8,31,-28,1,-32,30,-12,
32,-32,12,-36,48,-4,38,-40,14,-48,42,-16,44,-48,6,-48,48,-16,57,-62,18,-56,54,-2,72,
-64,20,-60,60,-24,62,-64,8,-64,84,-24,68,-72,24,-96,72,-8,74,-76,31,-80

A121613 Expansion of $\psi(-x)^4$ in powers of x where $\psi()$ is a Ramanujan theta function.

$$\frac{e^{\frac{\pi}{2}}\pi}{8\Gamma\left(\frac{3}{4}\right)^4}$$

0.83774699885312384512860860289831

1,-4,6,-8,13,-12,14,-24,18,-20,32,-24,31,-40,30,-32,48,-48,38,-56,42,-44,78,-48,57,-72,
54,-72,80,-60,62,-104,84,-68,96,-72,74,-124,96,-80,121,-84,108,-120,90,-112,128,
-120,98,-156,102,-104,192,-108,110

A122854 Expansion of $\phi(q)^2\psi(q)^4$ in powers of q where $\phi()$, $\psi()$ are Ramanujan theta functions.

$$\frac{e^{\frac{\pi}{2}} \pi^{3/2} \sqrt{2}}{8 \Gamma\left(\frac{3}{4}\right)^6}$$

1.3984122635494323333121885746825

1,8,26,48,73,120,170,208,290,360,384,528,651,656,842,960,960,1248,1370,1360,1682,
1848,1898,2208,2353,2320,2810,3120,2880,3480,3722,3504,4420,4488,4224,5040,
5330,5208,5760,6240,5905,6888,7540,6736,7922,8160,7680

A122856 Expansion of $f(x, x^5)^2$ in powers of x where $f(\cdot)$ is Ramanujan's general theta function.

$$-\frac{e^{\frac{2\pi}{3}} \pi^{3/2} \Gamma\left(\frac{11}{12}\right)^2 (-2 + \sqrt{3})}{3 \Gamma\left(\frac{2}{3}\right)^2 \Gamma\left(\frac{3}{4}\right)^4}$$

1.0882955937129287636666841455653

1,2,1,0,0,2,2,0,2,2,1,0,0,2,0,0,3,2,0,0,0,4,2,0,2,0,2,0,0,2,0,0,1,2,2,0,0,2,2,0,2,4,1,0,0,2,
0,0,2,2,0,0,0,0,2,0,4,2,0,0,0,4,0,0,2,2,3,0,0,0,2,0,2,4,0,0,0,2,0,0,1,2,0,0,0,2,4,0,0,2,2,
0,0,2,0,0,4,2,2,0,0,4,0,0,2

A122865 Expansion of $\chi(x) * \phi(x^3) * \psi(-x^3)$ in powers of x where $\chi(\cdot)$, $\phi(\cdot)$, $\psi(\cdot)$ are Ramanujan theta functions.

$$\frac{e^{\frac{\pi}{3}} \sqrt{\pi} \Gamma\left(\frac{11}{12}\right)^3 \Gamma\left(\frac{7}{12}\right)^3}{4 \Gamma\left(\frac{3}{4}\right)^8}$$

1.0433824427218395374508069872684

1,1,0,2,2,1,0,0,3,0,0,2,2,2,0,0,1,2,0,2,2,1,0,0,2,0,0,2,4,0,0,0,2,3,0,2,2,0,0,0,1,0,0,4,0,2,
0,0,4,2,0,0,2,2,0,0,3,0,0,2,2,0,0,0,2,1,0,2,4,2,0,0,0,0,0,2,2,2,0,0,2,2,0,4,0,1,0

A123759 Expansion of $f(-q) * \psi(-q^5)$ in powers of q where $f(\cdot)$, $\psi(\cdot)$ are Ramanujan theta functions.

$$\frac{e^{\frac{2\pi}{3}} \sqrt{\pi} 2^{11/40} 5^{3/4} \Gamma\left(\frac{4}{5}\right)^6 (5 - \sqrt{5})^3 (\sqrt{5} + 1)^3 (\sqrt{5} - 1)^3}{51200 \Gamma\left(\frac{3}{4}\right)^2 \Gamma\left(\frac{9}{10}\right)^3 \Gamma\left(\frac{7}{10}\right)^3}$$

0.95491864607976279314777193041354

1,-1,-1,0,0,0,1,2,0,0,-1,0,-2,0,0,-2,1,2,0,0,0,0,0,0,0,0,1,0,0,0,2,-2,-1,0,0,0,0,0,0,0,0,-1,
-1,0,0,0,0,0,0,0,2,0,0,0,0,2,0,2,0,0,0,0,-2,0,0,-2,-1,0,0,0,-2,0,0,0,0,0,2,0,0,0,-1,1,0,0,
0,0,0,2,0,0,0,0,2,0,0,0,0,-2,0,0,0,0,0,0,0

A124340 Number of solutions to $n = x^2 + 2*y^2 + 4*(T(z) + T(w)) + 1$ where x and y are integers, z and w are nonnegative integers and $T(x) = (x^2 + x)/2$.

$$\frac{e^{\pi \sqrt{2}} \Gamma\left(\frac{5}{8}\right)^4 (3 + 2\sqrt{2}) \sqrt{2 - \sqrt{2}}}{128 \pi \Gamma\left(\frac{7}{8}\right)^4}$$

1.0905001266778593278312402160016

1,2,2,4,4,4,8,8,7,8,10,8,12,16,8,16,18,14,18,16,16,20,24,16,21,24,20,32,28,16,32,32,20,
36,32,28,36,36,24,32,42,32,42,40,28,48,48,32,57,42,36,48,52,40,40,64,36,56,58,32,
60,64,56,64,48,40,66

A124863 Expansion of $1 / \chi(q)^{12}$ in powers of q where $\chi()$ is a Ramanujan theta function.

$$\frac{e^{\frac{\pi}{2}}}{8}$$

0.60130967262066895693412945833798

1,-12,78,-376,1509,-5316,16966,-50088,138738,-364284,913824,-2203368,5130999,
-11585208,25444278,-54504160,114133296,-234091152,471062830,-931388232,
1811754522,-3471186596,6556994502,-12222818640,22502406793

A124972 Expansion of Fricke's $32*\tau_4(z)$ in powers of $q = \exp(2*\pi*i*z)$.

$$16 e^{-\pi}$$

0.69142269222035599639068379474765

1,-8,20,0,-62,0,216,0,-641,0,1636,0,-3778,0,8248,0,-17277,0,34664,0,-66878,0,125312,
0,-229252,0,409676,0,-716420,0,1230328,0,-2079227,0,3460416,0,-5677816,0,
9198424,0,-14729608,0,23328520,0,-36567242,0,56774712,0

A125095 Expansion of $\phi(-x) * \psi(x^4)$ in powers of x where $\psi()$, $\phi()$ are Ramanujan theta functions.

$$\frac{e^{\frac{\pi}{2}} 2^{1/4} \Gamma\left(\frac{5}{8}\right)^2 (2 + \sqrt{2}) \sqrt{2 - \sqrt{2}}}{16 \sqrt{\pi} \Gamma\left(\frac{7}{8}\right)^2}$$

0.91358232411934110088936805122369

1,-2,0,0,3,-2,0,0,2,-2,0,0,1,-4,0,0,4,0,0,0,2,-2,0,0,1,-4,0,0,4,-2,0,0,0,-2,0,0,2,-2,0,0,5,-2,
0,0,2,0,0,0,2,-6,0,0,0,-2,0,0,2,0,0,0,3,-4,0,0,4,-2,0,0,2,-2,0,0,0,-2,0,0,6,0,0,0,0

A127786 Expansion of $\phi(q) * \phi(q^2) * \phi(-q^4)$ in powers of q where $\phi()$ is a Ramanujan theta function.

$$\frac{2^{7/16} \Gamma\left(\frac{5}{8}\right)^3 (2 + \sqrt{2})^{3/2} (\sqrt{2} \sqrt{2 + \sqrt{2}})^{3/2}}{32 \Gamma\left(\frac{7}{8}\right)^3 \pi^{3/4}}$$

1.0904849149815691668675934286986

1,2,2,4,0,-4,0,-8,-2,6,-8,4,0,-12,0,-8,-4,8,10,12,0,-8,0,-8,8,14,-8,16,0,-4,0,-16,6,16,16,8,
0,-20,0,-8,-8,8,-16,20,0,-20,0,-16,-8,18,10,8,0,-12,0,-24,0,16,-24,12,0,-20,0,-24,12,8,
16,28,0,-16,0,-8,-10,32,-8,20,0,-16,0,-16,-8,18,32,20,0,-24,0

A128111 Expansion of $q^{(-1)} * (\phi(q) / \phi(q^9) - 1) / 2$ in powers of q^3 where $\phi()$ is a Ramanujan theta function.

$$\frac{3 e^{\frac{\pi}{3}} \Gamma\left(\frac{2}{3}\right)^4 \Gamma\left(\frac{7}{12}\right)^2 (1 + \sqrt{3})}{16 \pi^2 \Gamma\left(\frac{11}{12}\right)^2}$$

1.0430457224044576378506929272466

1,1,0,-2,-2,1,4,4,-1,-8,-8,2,14,14,-4,-24,-23,6,40,38,-10,-63,-60,16,98,92,-24,-150,-140,
36,224,208,-54,-329,-304,78,478,440,-112,-684,-627,160,968,884,-224,-1358,-1236,
312,1884,1710,-432,-2592,-2346,590,3540,3196,-801,-4796,-4320,1082,6454

A128582 Expansion of $f(x^4, x^{12}) * f(x, x^5)$ in powers of x where $f(,)$ is Ramanujan's general theta function.

$$\frac{e^{\frac{5\pi}{6}} 2^{3/4} \sqrt{3} \Gamma\left(\frac{5}{8}\right)^3 \Gamma\left(\frac{11}{12}\right) (2 + \sqrt{2}) (\sqrt{3} - 1)}{96 \sqrt{\pi} \Gamma\left(\frac{2}{3}\right) \Gamma\left(\frac{7}{8}\right)^3}$$

1.0432177070222707286657871773111

0.78957854238885347613434958594142

1,-5,2,25,-28,-46,49,68,0,-142,-11,146,-94,0,98,75,-28,-238,0,-10,0,169,164,0,98,-124,
-476,0,-125,434,194,-316,386,0,0,-238,-285,392,0,-526,356,0,-478,0,194,795,230,0,0,
-124,-766,-334,-412,50,578,-245,866,-238,0,196,0,644,0,0,-952,-1006

A128713 Expansion of $q^{(-3/8)} * \eta(q)^7 * \eta(q^4)^2 / \eta(q^2)^3$ in powers of q .

$$\frac{e^{\frac{3\pi}{8}} \pi^{3/2} 2^{1/8}}{8 \Gamma\left(\frac{3}{4}\right)^6}$$

0.72811827463221590430129437717590

1,-7,17,-14,0,-7,2,41,-31,25,-79,0,35,89,0,-46,-31,-103,49,0,161,-85,17,-14,0,0,113,
-142,-223,0,115,233,0,146,-175,41,-94,0,-271,0,34,-7,98,329,0,75,0,-343,35,0,0,-238,
257,0,0,-439,322,-28,17,425,0,-391,401,169,0,-199,-205,-343,-511

A129449 Expansion of $\psi(-x) * \psi(-x^3)$ in powers of x where $\psi()$ is a Ramanujan theta function.

$$\frac{e^{\frac{\pi}{2}} \pi \sqrt{3} \Gamma\left(\frac{11}{12}\right) \sqrt{2} (\sqrt{3} - 1)}{12 \Gamma\left(\frac{2}{3}\right) \Gamma\left(\frac{3}{4}\right)^3}$$

0.95662818306726198774046185250425

1,-1,0,-2,1,0,2,0,0,-2,2,0,1,-1,0,-2,0,0,2,-2,0,-2,0,0,3,0,0,0,2,0,2,-2,0,-2,0,0,2,-1,0,-2,1,
0,0,0,0,-4,2,0,2,0,0,-2,0,0,2,-2,0,0,2,0,1,0,0,-2,2,0,4,0,0,-2,0,0,0,-3,0,-2,0,0,2,0,0,-2,
0,0,3,-2,0,-2,0,0,2,-2,0,0,2,0,2,0,0,-2,2,0,0,0,0

A129451 Expansion of $f(-x, -x^3) f(-x, x^2)$ in powers of x where $f(,)$ is Ramanujan's general theta function.

$$\frac{e^{\frac{\pi}{6}} \Gamma\left(\frac{2}{3}\right) \Gamma\left(\frac{7}{12}\right) \sqrt{2} (1 + \sqrt{3})}{8 \Gamma\left(\frac{3}{4}\right)^3}$$

0.91714884833813079095696445153821

1,-2,2,-2,1,-2,2,-2,3,0,2,-2,2,-2,0,-4,2,-2,2,0,1,-2,4,-2,0,-2,2,-2,3,-2,2,0,2,-2,0,-2,4,-2,2,
0,2,-4,0,-4,0,-2,2,-2,1,0,4,-2,2,0,2,-2,2,-4,2,0,3,-2,2,-2,0,0,2,-4,2,0,2,-4,2,-2,0,0,2

A129576 Expansion of $\phi(x) * \chi(x) * \psi(-x^3)$ in powers of x where $\phi()$, $\chi()$, $\psi()$

are Ramanujan theta functions.

$$\frac{e^{\frac{\pi}{3}} \pi \sqrt{3} \Gamma\left(\frac{11}{12}\right) \sqrt{2} (\sqrt{3} - 1)}{6 \Gamma\left(\frac{2}{3}\right) \Gamma\left(\frac{3}{4}\right)^3}$$

1.1333840800848123889405693879353

1,3,2,0,2,3,2,0,1,6,2,0,2,0,2,0,3,6,0,0,2,3,2,0,2,6,2,0,0,0,4,0,2,3,2,0,2,6,0,0,1,6,2,0,4,0,
2,0,0,6,2,0,2,0,2,0,3,6,2,0,2,0,0,0,2,9,2,0,0,6,2,0,4,0,2,0,2,0,0,0,2,6,4,0,0,3,4

A129588 Expansion of $q^{-1} * \text{theta}_2(q)^4$ in powers of q^2 .

$$\frac{2 e^{\frac{\pi}{2}} \pi \sqrt{2}}{\Gamma\left(\frac{3}{4}\right)^4}$$

18.956050681847127124272646865247

16,64,96,128,208,192,224,384,288,320,512,384,496,640,480,512,768,768,608,896,672,
704,1248,768,912,1152,864,1152,1280,960,992,1664,1344,1088,1536,1152,1184,
1984,1536,1280,1936,1344,1728,1920,1440

A131123 McKay-Thompson series of class 8A for the Monster group with $a(0) = 8$.

$$2 e^{-\pi} \sqrt{2} (2 + \sqrt{2})^2$$

1.4247872037232652906358913917867

1,8,36,128,386,1024,2488,5632,12031,24576,48308,91904,170110,307200,542872,
941056,1602819,2686976,4439688,7238272,11657090,18561024,29242240,45617664,
70507772,108036096,164192188,247620352,370726652

A131124 Expansion of $q^{(-1)} * (\text{phi}(-q) / \text{psi}(q^4))^2$ in powers of q where $\text{phi}()$, $\text{psi}()$ are Ramanujan theta functions.

$$4 e^{-\pi} \sqrt{2} (2 + \sqrt{2})$$

0.83462102044545086102548029539980

1,-4,4,0,2,0,-8,0,-1,0,20,0,-2,0,-40,0,3,0,72,0,2,0,-128,0,-4,0,220,0,-4,0,-360,0,5,0,576,
0,8,0,-904,0,-8,0,1384,0,-10,0,-2088,0,11,0,3108,0,12,0,-4552,0,-15,0,6592,0,-18,0,
-9448,0,22,0,13392

A131125 McKay-Thompson series of class 8E for the Monster group with $a(0) = 4$.

$$8 e^{-\pi} (2 + \sqrt{2})$$

1.1803323665556288592208221927737

1,4,4,0,2,0,-8,0,-1,0,20,0,-2,0,-40,0,3,0,72,0,2,0,-128,0,-4,0,220,0,-4,0,-360,0,5,0,576,0,
8,0,-904,0,-8,0,1384,0,-10,0,-2088,0,11,0,3108,0,12,0,-4552,0,-15,0,6592,0,-18,0,
-9448,0,22,0,13392,0,26,0,-18816,0,-29,0,26216,0,-34,0

A131126 Expansion of $(\phi(q^2) / \phi(-q))^2$ in powers of q where $\phi()$ is a Ramanujan theta function.

$$\frac{(2 + \sqrt{2}) \sqrt{2}}{4}$$

1.2071067811865475244008443621048

1,4,16,48,128,312,704,1504,3072,6036,11488,21264,38400,67864,117632,200352,
335872,554952,904784,1457136,2320128,3655296,5702208,8813472,13504512,
20523996,30952544,46340832,68901888,101777112,149403264,218016640,
316342272

A131999 Expansion of $\eta(q)^2 * \eta(q^2) * \eta(q^4)^3 / \eta(q^8)^2$ in powers of q .

$$\frac{\Gamma\left(\frac{5}{8}\right)^4 (3 + 2\sqrt{2}) \sqrt{2} \sqrt{2 + \sqrt{2}}}{16 \pi \Gamma\left(\frac{7}{8}\right)^4}$$

0.91015432852376838398807186952488

1,-2,-2,4,-2,8,4,-16,-2,-14,8,20,4,24,-16,-16,-2,-36,-14,36,8,32,20,-48,4,-42,24,40,-16,
56,-16,-64,-2,-40,-36,64,-14,72,36,-48,8,-84,32,84,20,56,-48,-96,4,-114,-42,72,24,
104,40,-80,-16,-72,56,116,-16

A132002 Expansion of $\phi(q^3) / \phi(q)$ in powers of q where $\phi()$ is a Ramanujan theta function.

$$\frac{3^{3/4} \Gamma\left(\frac{2}{3}\right) \Gamma\left(\frac{3}{4}\right) (1 + \sqrt{3})}{6 \sqrt{\pi} \Gamma\left(\frac{11}{12}\right)}$$

0.92059034625205082371506807162692

1,-2,4,-6,10,-16,24,-36,52,-74,104,-144,198,-268,360,-480,634,-832,1084,-1404,1808,
-2316,2952,-3744,4728,-5946,7448,-9294,11556,-14320,17688,-21780,26740,-32736,
39968,-48672,59122,-71644,86616,-104484,125768,-151072

A132107 Expansion of $(f(x) / f(x^3))^6$ in powers of x where $f()$ is a Ramanujan theta

function.

$$-\frac{9\sqrt{\pi}2^{1/3}\sqrt{3}\Gamma\left(\frac{11}{12}\right)^2(-2+\sqrt{3})e^{-\frac{\pi}{2}}}{\Gamma\left(\frac{3}{4}\right)^2\Gamma\left(\frac{5}{6}\right)}$$

1.2745617247801130399411724503837

1,6,9,-16,-66,-54,98,300,243,-364,-1128,-828,1221,3498,2511,-3528,-9876,-6804,9358,
25428,17217,-23068,-61644,-40824,53916,141318,92340,-119912,-310554,-199980,
256792,656436,418311,-530960,-1344144,-847584,1066157,2673372

A132136 Expansion of $-\lambda(t+1)$ in powers of the nome $q = \exp(\pi i t)$.
 e^π

23.140692632779269005729086367948

16,128,704,3072,11488,38400,117632,335872,904784,2320128,5702208,13504512,
30952544,68901888,149403264,316342272,655445792,1331327616,2655115712,
5206288384,10049485312,19115905536,35867019904,66437873664

A132965 Expansion of $f(-q^8) * \chi(q)^2$ in powers of q where $f()$, $\chi()$ are Ramanujan theta functions.

$$\frac{e^{\frac{\pi}{4}}\Gamma\left(\frac{5}{8}\right)2^{9/16}(2+\sqrt{2})^{1/4}}{4\pi^{1/4}\Gamma\left(\frac{7}{8}\right)}$$

1.0884712648241848188101874311553

1,2,1,2,4,4,5,6,8,10,12,14,17,22,24,30,36,40,48,56,65,76,88,100,116,134,152,174,200,
226,257,292,328,372,420,472,532,598,668,750,840,936,1045,1166,1296,1442,1604,
1776,1972,2186,2416,2672,2952,3256,3592,3960

A132966 Expansion of $f(-x) * \chi(x^2)^2$ in powers of x where $f()$, $\chi()$ are Ramanujan theta functions.

$$\frac{e^{-\frac{\pi}{8}}2^{3/4}\Gamma\left(\frac{5}{8}\right)(2+\sqrt{2})}{4\pi^{1/4}\Gamma\left(\frac{7}{8}\right)}$$

0.95848864490807448790122930889442

1,-1,1,-2,-1,0,1,1,2,-1,0,-1,0,1,-1,1,2,-2,1,-2,-3,0,0,1,2,0,1,-2,-2,2,0,2,3,-3,1,-3,-3,2,0,4,

4,-2,0,-3,-3,2,-2,3,5,-3,1,-6,-6,2,0,5,6,-3,1,-4,-6,4,-2,6,7,-5,3,-8,-9,5,-1,7,9,-5,2,-8

A132969 Expansion of $\phi(q) * \chi(q)$ in powers of q where $\phi()$, $\chi()$ are Ramanujan theta functions.

$$\frac{e^{-\frac{\pi}{24}} \pi^{1/4} 2^{1/4}}{\Gamma\left(\frac{3}{4}\right)}$$

1.1334755510155527756244921405469

1,3,2,1,5,5,3,5,6,10,10,8,13,15,15,16,23,27,25,30,35,40,42,45,55,66,68,70,86,95,100,
110,125,141,150,161,185,207,215,235,266,293,310,335,375,410,438,470,521,575,
610,653,725,785,835,900,983,1070,1140

A132970 Expansion of $\phi(-x) * \chi(-x)$ in powers of x where $\phi()$, $\chi()$ are Ramanujan theta functions.

$$\frac{e^{-\frac{\pi}{24}} \pi^{1/4} 2^{7/8}}{2 \Gamma\left(\frac{3}{4}\right)}$$

0.87402913255570809187628442756630

1,-3,2,-1,5,-5,3,-5,6,-10,10,-8,13,-15,15,-16,23,-27,25,-30,35,-40,42,-45,55,-66,68,-70,
86,-95,100,-110,125,-141,150,-161,185,-207,215,-235,266,-293,310,-335,375,-410,
438,-470,521,-575,610,-653,725,-785,835,-900,983,-1070,1140,-1220,1331

A132972 Expansion of $\chi(q)^3 / \chi(q^3)$ in powers of q where $\chi()$ is a Ramanujan theta function.

$$\frac{\pi^{1/3} 3^{2/3} \Gamma\left(\frac{3}{4}\right)^{4/3} (\sqrt{2} (1 + \sqrt{3}))^{1/3} \sqrt{2} (\sqrt{3} - 1)}{3 \Gamma\left(\frac{2}{3}\right)^{2/3} \Gamma\left(\frac{11}{12}\right)^{1/3} \Gamma\left(\frac{7}{12}\right)}$$

1.1355085445512086566956705511213

1,3,3,3,6,9,12,15,21,30,36,45,60,78,96,117,150,189,228,276,342,420,504,603,732,885,
1050,1245,1488,1773,2088,2454,2901,3420,3996,4662,5460,6378,7404,8583,9972,
11565,13344,15378,17748,20448,23472,26910,30876

A132973 Expansion of $\psi(-q)^3 / \psi(-q^3)$ in powers of q where $\psi()$ is a Ramanujan theta function.

$$\frac{\sqrt{3} \Gamma\left(\frac{2}{3}\right) \sqrt{2} (1 + \sqrt{3})}{8 \Gamma\left(\frac{3}{4}\right) \Gamma\left(\frac{11}{12}\right)}$$

0.87572895476174840534617242133482

1,-3,3,-3,3,0,3,-6,3,-3,0,0,3,-6,6,0,3,0,3,-6,0,-6,0,0,3,-3,6,-3,6,0,0,-6,3,0,0,0,3,-6,6,-6,0,
0,6,-6,0,0,0,0,3,-9,3,0,6,0,3,0,6,-6,0,0,0,-6,6,-6,3,0,0,-6,0,0,0,0,3,-6,6,-3,6,0,6,-6

A132974 Expansion of $\psi(-q^3) / \psi(-q)^3$ in powers of q where $\psi()$ is a Ramanujan theta function.

$$\frac{2 \sqrt{3} \Gamma\left(\frac{3}{4}\right) \Gamma\left(\frac{11}{12}\right) \sqrt{2} (\sqrt{3} - 1)}{3 \Gamma\left(\frac{2}{3}\right)}$$

1.1419058312078545869592445134415

1,3,6,12,24,45,78,132,222,363,576,900,1392,2121,3180,4716,6936,10098,14550,20796,
29520,41595,58176,80856,111750,153561,209820,285240,385968,519840,696960,
930516,1237470,1639314,2163456,2845080,3728904,4871211

A132977 Expansion of $q^{(-1/3)} * (\eta(q^6))^4 / (\eta(q) * \eta(q^3) * \eta(q^4) * \eta(q^{12}))^2$ in powers of q .

$$\frac{2 e^{\frac{\pi}{3}} \sqrt{3}}{9}$$

1.0968323006745059495945584831881

1,2,5,12,26,50,92,168,295,496,818,1332,2126,3324,5126,7824,11793,17548,25857,
37788,54734,78578,111968,158496,222842,311224,432095,596676,819504,1119624,
1522282,2060448,2776514,3725294,4978142,6626988,8789042

A132978 Expansion of $q^{(-2/3)} * (\psi(-q^3) / \psi(-q)^3) * (c(q^2) / 3)$ in powers of q where $\psi()$ is a Ramanujan theta function and $c()$ is a cubic AGM theta function.

$$\frac{2 e^{\frac{2\pi}{3}} \pi \Gamma\left(\frac{11}{12}\right) (\sqrt{3} - 1)^2}{9 \Gamma\left(\frac{2}{3}\right)^2 \Gamma\left(\frac{7}{12}\right)}$$

1.1440462394135833466373035234433

1,3,7,15,32,63,114,201,350,591,967,1554,2468,3855,5916,8970,13471,20007,29384,
42771,61784,88530,125838,177642,249230,347484,481506,663549,909788,1241127,

1684824,2276781,3063657,4105275,5478698,7283709,9648360,12735471

A133079 Expansion of $f(x)^3 - 3 * x * f(x^9)^3$ in powers of x^3 where $f()$ is a Ramanujan theta function.

$$\frac{e^{\frac{\pi}{24}} \pi^{5/4} 2^{1/4} \sqrt{3} (\sqrt{3} - 1)}{3 \Gamma\left(\frac{2}{3}\right) \Gamma\left(\frac{3}{4}\right)^2 \Gamma\left(\frac{7}{12}\right)}$$

0.77085996361963748482748340415673

1,-5,-7,0,0,11,0,-13,0,0,0,0,17,0,0,19,0,0,0,0,0,-23,0,0,0,25,0,0,0,0,0,0,-29,0,0,0,0,
-31,0,0,0,0,0,0,0,0,0,0,35,0,0,0,0,0,-37,0,0,0,0,0,0,0,0,0,0,0,41,0,0,0,0,0,43,0,0,0,
0,0,0,0,0,0,0,0,0,0,0,-47,0,0,0

A133089 Expansion of $f(x)^3$ in powers of x where $f()$ is a Ramanujan theta function.

$$\frac{e^{\frac{\pi}{8}} \pi^{3/4} 2^{1/4}}{2 \Gamma\left(\frac{3}{4}\right)^3}$$

1.1292382116167846729015497310014

1,3,0,-5,0,0,-7,0,0,0,9,0,0,0,0,11,0,0,0,0,0,-13,0,0,0,0,0,-15,0,0,0,0,0,0,17,0,0,0,0,0,
0,0,0,19,0,0,0,0,0,0,0,0,0,0,-21,0,0,0,0,0,0,0,0,0,-23,0,0,0,0,0,0,0,0,25,0,0,0,0,
0,0,0,0,0,0,0,0,27,0,0,0,0,0,0,0

A133574 Expansion of $(5 * \phi(q^5)^2 - \phi(q)^2) / 4$ in powers of q where $\phi()$ is a Ramanujan theta function.

$$\frac{\sqrt{\pi} (5 + \sqrt{5}) \sqrt{5}}{20 \Gamma\left(\frac{3}{4}\right)^2}$$

0.95491560375472719357438709618950

1,-1,-1,0,-1,3,0,0,-1,-1,3,0,0,-2,0,0,-1,-2,-1,0,3,0,0,0,0,7,-2,0,0,-2,0,0,-1,0,-2,0,-1,-2,0,0,
3,-2,0,0,0,3,0,0,0,-1,7,0,-2,-2,0,0,0,0,-2,0,0,-2,0,0,-1,6,0,0,-2,0,0,0,-1,-2,-2,0,0,0

A133637 Expansion of $q^{(-1)} * \psi(-q) / \psi(-q^3)^3$ in powers of q where $\psi()$ is a Ramanujan theta function.

$$\frac{3 e^{-\pi} \sqrt{3} \Gamma\left(\frac{2}{3}\right)^3 \Gamma\left(\frac{3}{4}\right)^5 \sqrt{2} (1 + \sqrt{3})^3}{4 \pi^2 \Gamma\left(\frac{11}{12}\right)^3}$$

0.95693704311037095967405253176162

1,-1,0,2,-3,0,4,-6,0,10,-12,0,20,-24,0,36,-45,0,64,-78,0,112,-132,0,189,-222,0,308,-363,
0,492,-576,0,778,-900,0,1210,-1392,0,1844,-2121,0,2776,-3180,0,4144,-4716,0,6114,
-6936,0,8914,-10098,0,12884,-14550

A133657 Expansion of $q * (\text{phi}(q) * \text{psi}(q^4))^2$ in powers of q where $\text{phi}()$, $\text{psi}()$ are Ramanujan theta functions.

$$\frac{e^{\pi} \Gamma\left(\frac{5}{8}\right)^4 (2 + \sqrt{2})}{64 \pi \Gamma\left(\frac{7}{8}\right)^4}$$

1.1803488315339825091574156849132

1,4,4,0,6,16,8,0,13,24,12,0,14,32,24,0,18,52,20,0,32,48,24,0,31,56,40,0,30,96,32,0,48,
72,48,0,38,80,56,0,42,128,44,0,78,96,48,0,57,124,72,0,54,160,72,0,80,120,60,0,62,
128,104,0,84,192,68,0,96

A133690 Expansion of $(\text{phi}(-q) * \text{phi}(q^2))^2$ in powers of q where $\text{phi}()$ is a Ramanujan theta function.

$$-\frac{\sqrt{2} \Gamma\left(\frac{5}{8}\right)^4 (3 + 2 \sqrt{2})}{16 \pi \Gamma\left(\frac{7}{8}\right)^4 (\sqrt{2} - 2)}$$

0.84087295554966323968223842301712

1,-4,8,-16,24,-24,32,-32,24,-52,48,-48,96,-56,64,-96,24,-72,104,-80,144,-128,96,-96,96,
-124,112,-160,192,-120,192,-128,24,-192,144,-192,312,-152,160,-224,144,-168,256,
-176,288,-312,192,-192,96,-228,248,-288

A133692 Expansion of $\text{phi}(-q) * \text{phi}(q^2)$ in powers of q where $\text{phi}()$ is a Ramanujan theta function.

$$\frac{2^{1/4} \Gamma\left(\frac{5}{8}\right)^2 (2 + \sqrt{2})^{3/2}}{8 \sqrt{\pi} \Gamma\left(\frac{7}{8}\right)^2}$$

0.91699125162111728822615110058665

1,-2,2,-4,2,0,4,0,2,-6,0,-4,4,0,0,0,2,-4,6,-4,0,0,4,0,4,-2,0,-8,0,0,0,0,2,-8,4,0,6,0,4,0,0,-4,
0,-4,4,0,0,0,4,-2,2,-8,0,0,8,0,0,-8,0,-4,0,0,0,0,2,0,8,-4,4,0,0,0,6,-4,0,-4,4,0,0,0,0

A133985 Expansion of $f(-x, x^2)$ in powers of x where $f(,)$ is Ramanujan's general theta function.

$$\frac{e^{\frac{\pi}{24}} 2^{3/4} \Gamma\left(\frac{2}{3}\right) 3^{3/4} (1 + \sqrt{3})}{12 \pi^{1/4} \Gamma\left(\frac{11}{12}\right)}$$

0.95865337348478139669308537045991

1,-1,1,0,0,-1,0,-1,0,0,0,0,1,0,0,-1,0,0,0,0,0,1,0,0,0,1,0,0,0,0,0,0,0,-1,0,0,0,0,1,0,0,0,
0,0,0,0,0,0,0,-1,0,0,0,0,0,-1,0,0,0,0,0,0,0,0,0,0,0,1,0,0,0,0,0,0,-1,0,0,0,0,0,0

A133988 Expansion of $\phi(x) / \chi(x^3)$ in powers of x where $\phi()$, $\chi()$ are Ramanujan theta functions.

$$\frac{e^{\frac{\pi}{8}} \pi^{1/4} 2^{1/12}}{\Gamma\left(\frac{3}{4}\right) (\sqrt{2} (1 + \sqrt{3}))^{1/3}}$$

1.0863471435223409090047079270786

1,2,0,-1,0,0,1,0,0,0,-2,0,0,0,0,-1,0,0,0,0,0,-1,0,0,0,0,0,-2,0,0,0,0,0,0,1,0,0,0,0,0,0,0,
0,-1,0,0,0,0,0,0,0,0,0,0,2,0,0,0,0,0,0,0,0,0,0,1,0,0,0,0,0,0,0,0,0,0,1,0,0,0,0,0,0

A134079 Expansion of $q^{(-2/3)} * c(-q)^2 / 9$ in powers of q where $c(q)$ is a cubic AGM theta function.

$$\frac{e^{\frac{2\pi}{3}} \Gamma\left(\frac{2}{3}\right)^2 (1 + \sqrt{3})^2}{72 \Gamma\left(\frac{3}{4}\right)^2 \Gamma\left(\frac{11}{12}\right)^2}$$

0.92261366267702216499245625766099

1,-2,5,-4,8,-6,14,-8,14,-10,21,-16,20,-14,28,-16,31,-18,40,-20,32,-28,42,-24,38,-32,62,
-28,44,-30,56,-40,57,-34,70,-36,72,-38,70,-48,62,-52,85,-44,68,-46,112,-56,74,-50,
100,-64,80,-64,98,-56,108,-58,124

A134343 Expansion of $\psi(-x)^2$ in powers of x where $\psi()$ is a Ramanujan theta function.

$$\frac{e^{\frac{\pi}{4}} \sqrt{\pi} \sqrt{2}}{4 \Gamma\left(\frac{3}{4}\right)^2}$$

0.91528520082711041566306161358222

1,-2,1,-2,2,0,3,-2,0,-2,2,-2,1,-2,0,-2,4,0,2,0,1,-4,2,0,2,-2,0,-2,2,-2,1,-4,0,0,2,0,4,-2,2,-2,
0,0,3,-2,0,-2,4,0,2,-2,0,-4,0,0,0,-4,3,-2,2,0,2,-2,0,0,2,-2,4,-2,0,-2,2,0,3,-2,0,0,4,0,2

A134414 Expansion of $\eta(q)^2 / (\eta(q^2) * \eta(q^4)^6)$ in powers of q .

$$\frac{32 e^{-\pi} \Gamma\left(\frac{3}{4}\right)^5}{\pi^{5/4}}$$

0.91359825423545076442453240767219

1,-2,0,0,8,-12,0,0,39,-56,0,0,152,-208,0,0,513,-684,0,0,1560,-2032,0,0,4382,-5616,0,0,
11552,-14592,0,0,28899,-36088,0,0,69168,-85500,0,0,159372,-195312,0,0,355224,
-431984,0,0,768885,-928720,0,0,1621296,-1946352,0,0,3339201

A134415 Expansion of $\phi(x) / f(-x)^6$ in powers of x where $\phi()$, $f()$ are Ramanujan theta functions.

$$\frac{4 e^{-\frac{\pi}{4}} 2^{1/4} \Gamma\left(\frac{3}{4}\right)^5}{\pi^{5/4}}$$

1.4328642208860395286813339961689

1,8,39,152,513,1560,4382,11552,28899,69168,159372,355224,768885,1621296,3339201,
6732232,13311450,25854744,49398043,92953016,172451760,315744072,570997539,
1020691248,1804730732,3158323272,5473566645,9398873032,15998363307,
27005721648

A134416 Expansion of $\eta(q^4)^2 / (\eta(q^2) * \eta(q)^6)$ in powers of q .

$$\frac{2 \Gamma\left(\frac{3}{4}\right)^5}{\pi^{5/4}}$$

1.3213310244441435687957145995081

1,6,28,104,342,1016,2808,7296,18044,42750,97656,215992,464360,973176,1993328,
3998592,7870038,15221232,28968084,54311736,100421688,183281904,330468216,
589084288,1038850488,1813500030,3135518440,5372110496,9124793472,
15371832424

A134461 Expansion of $(\phi(x) * \psi(-x))^4$ in powers of x where $\phi()$, $\psi()$ are Ramanujan theta functions.

$$\frac{e^{\frac{\pi}{2}} \pi^2}{8 \Gamma\left(\frac{3}{4}\right)^8}$$

1.1671524108845543659214033279644

1,4,-2,-24,-11,44,22,-8,50,-44,-96,56,-121,-152,198,160,176,48,-162,88,-198,-52,22,
-528,233,200,-242,-88,-176,668,550,264,-44,-188,224,-728,154,-484,-1056,656,-311,
-236,-100,792,714,-528,640,88,-478,-484,1566,968,192,780,-1994,-648,-942

A134746 Expansion of $1+k$ in powers of $q^{(1/2)}$ where q is Jacobi's nome and k is the elliptic modulus.

$$4 - 2\sqrt{2}$$

1.1715728752538099023966225515806

1,4,0,-16,0,56,0,-160,0,404,0,-944,0,2072,0,-4320,0,8648,0,-16720,0,31360,0,-57312,0,
102364,0,-179104,0,307672,0,-519808,0,864960,0,-1419456,0,2299832,0,-3682400,0,
5831784,0,-9141808,0,14194200,0,-21842368,0

A134747 Expansion of $q * (\chi(-q) / \chi(-q^4))^8$ in powers of q where $\chi()$ is a Ramanujan theta function.

$$-\frac{e^{\pi\sqrt{2}}(-3+2\sqrt{2})}{8}$$

0.70185919510421768244045296725865

1,-8,28,-64,142,-352,792,-1536,2917,-5744,10868,-19200,33414,-58816,101256,
-167936,275314,-452392,732748,-1160064,1819808,-2851104,4421064,-6752256,
10236407,-15476272,23215192,-34450944,50811638,-74701632,109138272,
-158171136

A135211 Expansion of $\psi(-x) / \psi(-x^3)$ in powers of x where $\psi()$ is a Ramanujan theta function.

$$\frac{e^{-\frac{\pi}{4}} \sqrt{3} \Gamma\left(\frac{2}{3}\right) \Gamma\left(\frac{3}{4}\right) (1 + \sqrt{3})}{2 \sqrt{\pi} \Gamma\left(\frac{11}{12}\right)}$$

0.95678260062588529874984470100140

1,-1,0,0,-1,0,1,-1,0,2,-1,0,2,-2,0,2,-3,0,3,-3,0,4,-4,0,5,-6,0,6,-7,0,7,-8,0,10,-10,0,13,-13,
0,14,-16,0,17,-18,0,22,-22,0,26,-28,0,30,-33,0,36,-38,0,44,-45,0,52,-55,0,60,-65,0,70,
-74,0,84,-87,0,99,-104,0,112,-121,0,131,-138,0,156,-160

A135467 Expansion of $q^{(-3/4)} * \eta(q)^2 * \eta(q^2)^4 * \eta(q^8)^4 / \eta(q^4)^6$ in powers of q .

$$\frac{e^{\frac{3\pi}{4}} 2^{3/4} \Gamma\left(\frac{5}{8}\right)^4 (2 + \sqrt{2})}{64 \pi \Gamma\left(\frac{7}{8}\right)^4}$$

0.90508378157349636850227076192986

1,-2,-5,10,13,-22,-30,40,60,-78,-101,132,170,-210,-273,342,409,-514,-625,748,917,
-1102,-1300,1570,1863,-2186,-2589,3034,3540,-4148,-4838,5584,6489,-7500,-8621,
9958,11417,-13046,-14960,17066,19417,-22122,-25119,28450,32253,-36478

A135763 Expansion of $(\theta_3(q) * \theta_3(q^3))^3$ in powers of q .

$$\frac{\Gamma\left(\frac{2}{3}\right)^3 \Gamma\left(\frac{7}{12}\right)^3 \sqrt{2} (1 + \sqrt{3})^3}{32 \Gamma\left(\frac{3}{4}\right)^9}$$

1.2829841325889715647567117532838

1,6,12,14,42,96,84,108,300,278,144,480,546,252,600,672,618,1152,732,828,2016,1276,
720,2112,2100,1302,2040,2078,2100,3360,1872,1740,4908,3360,1728,4800,5082,
2844,4344,4684,3600,6720,4200,3612,10080,5856,3168,8832

A135828 Expansion of $\psi(x^2)^8 * (\psi(x)^8 + \psi(-x)^8) / 2$ in powers of x^2 where $\psi()$ is a Ramanujan theta function.

$$\frac{3 e^{\frac{3\pi}{2}} \pi^4 \sqrt{2}}{512 \Gamma\left(\frac{3}{4}\right)^{16}}$$

3.4752782744538807779790491501127

1,36,378,2200,8955,28836,78558,188568,410805,828080,1564686,2804976,4809370,
7927380,12643560,19594632,29568204,43626708,63094550,89501040,124916931,
171803652,232822908,311683680,412601490,539849556,699657642,898801400,
1143680535

A136028 Expansion of $(\phi(q) * \phi(q^2))^3$ in powers of q where $\phi()$ is a Ramanujan theta function.

$$-\frac{\Gamma\left(\frac{5}{8}\right)^6 (7\sqrt{2} + 10) \sqrt{2} \sqrt{2 + \sqrt{2}}}{64 \pi^{3/2} \Gamma\left(\frac{7}{8}\right)^6 (\sqrt{2} - 2)}$$

1.2967852853151984329303931791739

1,6,18,44,90,144,212,288,330,418,528,588,836,1008,1056,1440,1386,1356,1894,1644,
2064,2880,2484,3168,3428,2838,3696,3864,4128,5040,5280,5760,5418,5656,5988,
5376,7678,8208,7572,10080,8208,7788,10560,8652,10404,13104

A137828 Expansion of $\phi(x) / f(-x^4)^2$ in powers of x where $\phi()$, $f()$ are Ramanujan theta functions.

$$\frac{2 e^{-\frac{\pi}{3}} 2^{3/4} \Gamma\left(\frac{3}{4}\right)}{\pi^{1/4}}$$

1.0864423888196409763757290909376

1,2,0,0,4,4,0,0,9,12,0,0,20,24,0,0,42,50,0,0,80,92,0,0,147,172,0,0,260,296,0,0,445,510,
0,0,744,840,0,0,1215,1372,0,0,1944,2176,0,0,3059,3424,0,0,4740,5268,0,0,7239,
8040,0,0,10920,12072,0,0,16286

A137829 Expansion of $\psi(q^2) / f(-q)^2$ in powers of q where $\psi()$, $f()$ are Ramanujan theta functions.

$$\frac{e^{\frac{\pi}{6}} \sqrt{2} \Gamma\left(\frac{3}{4}\right)}{2 \pi^{1/4}}$$

1.0986956080242776463276218423447

1,2,6,12,25,46,86,148,255,420,686,1088,1712,2634,4020,6036,8988,13214,19282,27840,
39923,56750,80160,112384,156660,216958,298894,409420,558119,756950,1022090,
1373760,1838932,2451366,3255480,4306920,5678104,7459634,9768386

A137830 Expansion of $\phi(-x) / f(-x^4)^2$ in powers of x where $\phi()$, $f()$ are Ramanujan theta functions.

$$\frac{2 e^{-\frac{\pi}{3}} \sqrt{2} \Gamma\left(\frac{3}{4}\right)}{\pi^{1/4}}$$

0.91358551013811841283046984207784

1,-2,0,0,4,-4,0,0,9,-12,0,0,20,-24,0,0,42,-50,0,0,80,-92,0,0,147,-172,0,0,260,-296,0,0,
445,-510,0,0,744,-840,0,0,1215,-1372,0,0,1944,-2176,0,0,3059,-3424,0,0,4740,-5268,
0,0,7239,-8040,0,0,10920

A138483 Expansion of $(\phi(q)^3 * \phi(q^5) - \phi(q) * \phi(q^5)^3) / 4$ in powers of q
where $\phi()$ is a Ramanujan theta function.

$$\frac{e^{\pi} \pi^{4/3} 2^{4/5} 5^{11/12} \left(\sqrt{2} \sqrt{5} \sqrt{5-\sqrt{5}}\right)^{2/3} \Gamma\left(\frac{9}{10}\right)^{1/3} (\sqrt{5}-1)^{1/3}}{500 \Gamma\left(\frac{3}{4}\right)^4 \Gamma\left(\frac{3}{5}\right)^{2/3} (\sqrt{5}+1)^{1/3} \Gamma\left(\frac{7}{10}\right)^{1/3}}$$

1.1334757218321992097617409943442

1,3,2,1,5,6,6,7,7,15,12,2,12,18,10,9,16,21,20,5,12,36,22,14,25,36,20,6,30,30,32,23,24,
48,30,7,36,60,24,35,42,36,42,12,35,66,46,18,43,75,32,12,52,60,60,42,40,90,60,10,62,
96,42,41,60,72,66,16,44

A138501 Expansion of $(\eta(q)^2 * \eta(q^4)^4 / \eta(q^2)^3)^2$ in powers of q .

$$\frac{e^{\pi} \pi^{3/2} \sqrt{2}}{64 \Gamma\left(\frac{3}{4}\right)^6}$$

0.84087882038363779311126789643661

1,-4,8,-16,26,-32,48,-64,73,-104,120,-128,170,-192,208,-256,290,-292,360,-416,384,
-480,528,-512,651,-680,656,-768,842,-832,960,-1024,960,-1160,1248,-1168,1370,
-1440,1360,-1664,1682,-1536,1848,-1920,1898,-2112,2208,-2048,2353,-2604

A138502 Expansion of $q^{(-1/2)} * (\eta(q)^4 * \eta(q^4)^2 / \eta(q^2)^3)^2$ in powers of q .

$$\frac{e^{\frac{\pi}{2}} \pi^{3/2} \sqrt{2}}{16 \Gamma\left(\frac{3}{4}\right)^6}$$

0.69920613177471616665609428734125

1,-8,26,-48,73,-120,170,-208,290,-360,384,-528,651,-656,842,-960,960,-1248,1370,
-1360,1682,-1848,1898,-2208,2353,-2320,2810,-3120,2880,-3480,3722,-3504,4420,
-4488,4224,-5040,5330,-5208,5760,-6240,5905,-6888,7540,-6736,7922,-8160,7680

A138504 Expansion of $(\eta(q^2)^9 / (\eta(q)^2 * \eta(q^4)^4))^2$ in powers of q .

$$\frac{\sqrt{2} \pi^{3/2}}{2 \Gamma\left(\frac{3}{4}\right)^6}$$

1.1628053956414640119507824819241

1,4,-4,-32,-4,104,32,-192,-4,292,-104,-480,32,680,192,-832,-4,1160,-292,-1440,-104,
1536,480,-2112,32,2604,-680,-2624,192,3368,832,-3840,-4,3840,-1160,-4992,-292,
5480,1440,-5440,-104,6728,-1536,-7392,480,7592,2112,-8832,32,9412,-2604,-9280

A138506 Expansion of $f(q)^5 / f(q^5)$ in powers of q where $f()$ is a Ramanujan theta function.

$$-\frac{\pi 2^{4/5} 5^{1/4} \Gamma\left(\frac{4}{5}\right)^2 (-5 + \sqrt{5})}{8 \Gamma\left(\frac{3}{4}\right)^4 \Gamma\left(\frac{9}{10}\right) \Gamma\left(\frac{7}{10}\right)}$$

1.2245481799306726905667491170523

1,5,5,-10,-15,5,-10,-30,25,35,5,60,30,-60,-30,-10,-55,-80,35,100,-15,60,60,-110,-50,5,
-60,-100,90,150,-10,160,105,-120,-80,-30,-105,-180,100,120,25,210,60,-210,-180,35,
-110,-230,110,215,5,160,180,-260,-100

A138512 Expansion of $q * f(q^5)^5 / f(q)$ in powers of q where $f()$ is a Ramanujan theta function.

$$\frac{e^\pi \pi 5^{1/4} \sqrt{2} (5 - \sqrt{5})^{5/2} (\sqrt{5} + 1)^5}{320000 \Gamma\left(\frac{3}{4}\right)^4}$$

0.96029604170536766537162013029753

1,-1,2,-3,5,-2,6,-5,7,-5,12,-6,12,-6,10,-11,16,-7,20,-15,12,-12,22,-10,25,-12,20,-18,30,
-10,32,-21,24,-16,30,-21,36,-20,24,-25,42,-12,42,-36,35,-22,46,-22,43,-25,32,-36,52,
-20,60,-30,40,-30,60,-30,62

A138514 Expansion of $q^{(-1/8)} * \eta(q^2)^4 / (\eta(q) * \eta(q^4))$ in powers of q .

$$\frac{e^{\frac{\pi}{8}} \sqrt{\pi} 2^{1/4}}{2 \Gamma\left(\frac{3}{4}\right)^2}$$

1.0393980383928187118614881823395

1,1,-2,-1,0,-2,1,0,0,2,1,2,-2,0,2,1,0,-2,0,-2,0,-1,0,0,-2,0,0,0,-1,2,-2,0,2,0,0,2,3,0,0,-2,0,
0,2,0,2,1,-2,0,0,0,-2,-2,0,2,-2,1,-2,-2,0,0,0,0,0,0,0,-2,1,0,0,0,0,-2,2,0,2,2,0,2,1,0,-2,0,

2,0,-2,0,0,4,0,0,0,1,0,0,0,-2,-2,0,0,0,2,-2,0,0,-2

A138515 Expansion of $q^{(-1/4)} * \eta(q^2)^8 / (\eta(q) * \eta(q^4))^2$ in powers of q .

$$\frac{e^{\frac{\pi}{4}} \pi \sqrt{2}}{4 \Gamma\left(\frac{3}{4}\right)^4}$$

1.0803482822148394409513428293562

1,2,-3,-6,2,0,-1,10,0,2,10,-6,-7,-14,0,10,-12,0,-6,0,9,4,10,0,18,2,0,-6,-14,18,-11,-12,0,0,
-22,0,20,-14,-6,-22,0,0,23,26,0,18,4,0,-14,2,0,20,0,0,0,-12,3,-30,26,0,-30,-14,0,0,2,
-30,-28,26,0,18,10,0,-13,34,0,0,20,0,26,-22,0,6,0,-6,18,0

A138557 Expansion of $\eta(q)^2 * \eta(q^4)^2 * \eta(q^{10})^7 / (\eta(q^2)^3 * \eta(q^5)^2 * \eta(q^{20})^2)$ in powers of q .

$$\frac{e^{\pi} \pi 5^{1/4} \sqrt{2} \sqrt{5-\sqrt{5}} (\sqrt{5}+1)}{400 \Gamma\left(\frac{3}{4}\right)^4}$$

0.91700112167365977927408991428598

1,-2,2,-4,5,-4,6,-8,7,-10,12,-8,12,-12,10,-16,16,-14,20,-20,12,-24,22,-16,25,-24,20,-24,
30,-20,32,-32,24,-32,30,-28,36,-40,24,-40,42,-24,42,-48,35,-44,46,-32,43,-50,32,-48,
52,-40,60,-48,40,-60,60,-40

A138558 Expansion of $\eta(q^2)^7 * \eta(q^5)^2 * \eta(q^{20})^2 / (\eta(q)^2 * \eta(q^4)^2 * \eta(q^{10})^3)$ in powers of q .

$$\frac{e^{\pi} 5^{1/4} \pi \Gamma\left(\frac{4}{5}\right)^{34} 2^{3/5} (5-\sqrt{5})^{14} (5+\sqrt{5})^3 (\sqrt{5}+1)^{17} (\sqrt{5}-1)^{17}}{450359962737049600000 \Gamma\left(\frac{3}{4}\right)^4 \Gamma\left(\frac{7}{10}\right)^{17} \Gamma\left(\frac{9}{10}\right)^{17}}$$

1.0823730007926971524382554002930

1,2,-2,-4,1,-4,-6,8,7,2,12,8,-12,-12,-2,-16,-16,14,20,-4,12,24,-22,-16,1,-24,-20,24,30,-4,
32,32,-24,-32,-6,-28,-36,40,24,8,42,24,-42,-48,7,-44,-46,32,43,2,32,48,-52,-40,12,
-48,-40,60,60,8,62,64,-42

A138559 Expansion of $\phi(x) * \chi(-x)$ in powers of x where $\phi()$, $\chi()$ are Ramanujan theta functions.

$$\frac{e^{-\frac{\pi}{24}} \pi^{1/4} 2^{1/8}}{\Gamma\left(\frac{3}{4}\right)}$$

1.0394016631549044883050738482980

1,1,-2,-1,1,-1,-1,-1,2,2,-2,0,1,1,-1,0,3,1,-3,-2,3,0,-2,-1,3,2,-4,-2,2,1,-4,-2,5,3,-6,-1,5,1,
-5,-3,6,3,-6,-3,7,2,-6,-2,9,5,-10,-5,9,3,-9,-4,11,6,-12,-4,11,5,-12,-5,14,6,-16,-7,15,5,
-16,-7,19,9,-20,-8,19,7,-20,-10,24,11,-25,-11,24,9,-26,-11,29,13,-31,-13

A139093 Expansion of $\phi(q) * \phi(-q^2)$ in powers of q where $\phi()$ is a Ramanujan theta function.

$$\frac{\sqrt{\pi} 2^{7/8}}{2 \Gamma\left(\frac{3}{4}\right)^2}$$

1.0823771016563838256381509275852

1,2,-2,-4,2,0,-4,0,2,6,0,-4,4,0,0,0,2,4,-6,-4,0,0,-4,0,4,2,0,-8,0,0,0,0,2,8,-4,0,6,0,-4,0,0,4,
0,-4,4,0,0,0,4,2,-2,-8,0,0,-8,0,0,8,0,-4,0,0,0,0,2,0,-8,-4,4,0,0,0,6,4,0,-4,4,0,0,0,0,10,
-4,-4,0,0,-4,0,4,4,0,0,0,0,0,0,4,4,-2,-12,2,0,-8,0

A139135 Expansion of $\psi(-q^3) / f(q)$ where $\psi()$, $f()$ are Ramanujan theta functions.

$$\frac{e^{\frac{\pi}{3}} \sqrt{\pi} \sqrt{3} \Gamma\left(\frac{11}{12}\right) \sqrt{2} (\sqrt{3} - 1)}{6 \Gamma\left(\frac{2}{3}\right) \Gamma\left(\frac{3}{4}\right)}$$

0.96021782274504014227583387806134

1,-1,2,-4,6,-9,14,-20,29,-42,58,-80,110,-148,198,-264,347,-454,592,-764,982,-1257,
1598,-2024,2554,-3206,4010,-5000,6208,-7684,9484,-11664,14306,-17501,21346,
-25972,31526,-38170,46112,-55588,66861,-80258,96154,-114968,137212

A139136 Expansion of $\psi(-q) / f(q^3)$ where $\psi()$, $f()$ are Ramanujan theta functions.

$$\frac{\pi^{1/6} 3^{7/12} \Gamma\left(\frac{11}{12}\right)^{4/3} \Gamma\left(\frac{7}{12}\right) 2^{1/3}}{2 \Gamma\left(\frac{2}{3}\right)^{1/3} \Gamma\left(\frac{3}{4}\right)^{7/3} (1 + \sqrt{3})^{1/3}}$$

0.95662819552717616884730593425070

1,-1,0,-2,1,0,4,-2,0,-6,4,0,10,-6,0,-16,9,0,24,-14,0,-36,20,0,52,-29,0,-74,42,0,104,-58,0,
-144,80,0,198,-110,0,-268,148,0,360,-198,0,-480,264,0,634,-347,0,-832,454,0,1084,

-592,0,-1404,764,0,1808,-982

A139137 Expansion of $\phi(q) / \phi(q^3)$ in powers of q where $\phi()$ is a Ramanujan theta function.

$$\frac{\Gamma\left(\frac{3}{4}\right) \sqrt{\pi} \sqrt{2} (\sqrt{3} - 1)}{\Gamma\left(\frac{2}{3}\right) \Gamma\left(\frac{7}{12}\right)}$$

1.0862594899797128665330405712297

1,2,0,-2,-2,0,4,4,0,-6,-8,0,10,12,0,-16,-18,0,24,28,0,-36,-40,0,52,58,0,-74,-84,0,104,116,
0,-144,-160,0,198,220,0,-268,-296,0,360,396,0,-480,-528,0,634,694,0,-832,-908,0,
1084,1184,0,-1404,-1528,0,1808,1964,0,-2316,-2514,0,2952,3196

A139631 Expansion of $\chi(x^5) / \chi(-x^2)$ in powers of x where $\chi()$ is a Ramanujan theta function.

$$\frac{e^{-\frac{\pi}{8}} 2^{7/8} (5 + \sqrt{5}) \sqrt{5}}{20}$$

1.0018710941069617862789273814783

1,0,1,0,1,1,2,1,2,1,3,2,4,2,5,4,6,5,8,6,11,8,13,10,16,14,20,17,24,21,31,26,37,32,44,41,
54,49,64,59,79,72,94,86,111,106,132,126,156,149,187,178,219,210,257,251,302,295,
352,346,416,406,483,474,560

A139820 Expansion of $(\phi(-q) / \phi(q))^2$ in powers of q where $\phi()$ is a Ramanujan theta function.

$$\frac{\sqrt{2}}{2}$$

0.70710678118654752440084436210485

1,-8,32,-96,256,-624,1408,-3008,6144,-12072,22976,-42528,76800,-135728,235264,
-400704,671744,-1109904,1809568,-2914272,4640256,-7310592,11404416,
-17626944,27009024,-41047992,61905088,-92681664,137803776,-203554224

A143066 Expansion of $\phi(x^3) / \psi(x)$ in powers of x where $\phi()$, $\psi()$ are Ramanujan theta functions.

$$\frac{e^{-\frac{\pi}{8}} 2^{1/8} \Gamma\left(\frac{2}{3}\right) \Gamma\left(\frac{7}{12}\right) (1 + \sqrt{3})}{2 \Gamma\left(\frac{3}{4}\right) \sqrt{\pi}}$$

0.95865671666061322951993373006875

1,-1,1,0,1,-2,1,-1,2,-3,2,-1,4,-5,3,-3,6,-8,5,-4,9,-12,8,-7,14,-18,13,-10,20,-26,18,-16,29,
-37,27,-23,41,-52,38,-34,58,-72,54,-47,79,-98,74,-67,109,-133,103,-92,146,-178,138,
-127,196,-237,187,-170,260

A143067 Expansion of $\psi(-x^3) / f(-x^4)$ in powers of x where $\psi()$, $f()$ are Ramanujan theta functions.

$$\frac{e^{\frac{5\pi}{24}} \sqrt{\pi} 2^{1/8} \sqrt{3} \Gamma\left(\frac{11}{12}\right) (\sqrt{3} - 1)}{3 \Gamma\left(\frac{2}{3}\right) \Gamma\left(\frac{3}{4}\right)}$$

0.99992278756715478607762363717506

1,0,0,-1,1,0,0,-1,2,-1,0,-2,3,-1,0,-3,5,-2,1,-5,7,-3,1,-7,11,-5,2,-11,15,-7,4,-15,22,-11,6,
-22,30,-15,9,-30,42,-22,14,-42,56,-31,20,-56,77,-43,29,-77,101,-58,41,-101,135,-80,
57,-135,176,-106,78

A143161 Expansion of $\chi(-x)^2 * \chi(-x^2)$ in powers of x where $\chi()$ is a Ramanujan theta function.

$$e^{-\frac{\pi}{6}} 2^{5/8}$$

0.91358232414156226737702630556291

1,-2,0,0,3,-2,0,0,4,-6,0,0,7,-8,0,0,13,-14,0,0,19,-20,0,0,29,-34,0,0,43,-46,0,0,62,-70,0,0,
90,-96,0,0,126,-138,0,0,174,-186,0,0,239,-262,0,0,325,-346,0,0,435,-472,0,0,580,
-620,0,0,769,-826,0,0

A143377 Expansion of $q^{(-1/6)} * \eta(q)^2 * \eta(q^4) / \eta(q^2)$ in powers of q .

$$\frac{e^{\frac{\pi}{6}} \sqrt{\pi} 2^{7/8}}{4 \Gamma\left(\frac{3}{4}\right)^2}$$

0.91357595218178203617417066571452

1,-2,0,0,1,2,0,0,-3,0,0,0,-2,2,0,0,2,2,0,0,-1,-2,0,0,0,-2,0,0,1,-2,0,0,2,2,0,0,4,-2,0,0,-2,0,
0,0,0,-2,0,0,-1,0,0,0,-2,0,0,0,2,4,0,0,-1,2,0,0,0,0,0,0,-2,0,0,0,-2,2,0,0,-2,-2,0,0,0,-2,0,

0,0,4,0,0,1,0,0,0,4,0,0,0,-2,0,0,0,2,-2,0,0,1

A143378 Expansion of $q^{(-1/24)} * \eta(q^2)^5 / (\eta(q) * \eta(q^4)^2)$ in powers of q .

$$\frac{e^{\frac{\pi}{24}} \sqrt{\pi} 2^{5/8}}{2 \Gamma\left(\frac{3}{4}\right)^2}$$

1.0374570153242992384115003001884

1,1,-3,-2,2,-1,0,1,2,4,-2,0,-1,-2,2,-1,0,-2,-2,-2,0,0,1,4,-2,2,1,0,-2,0,4,0,2,0,0,1,0,-4,0,-2,
-3,0,2,2,-4,0,0,2,-2,0,-2,-3,2,0,2,2,0,1,4,0,0,0,2,0,0,-4,0,2,0,2,-1,0,0,2,-2,2,-2,-1,-2,
-4,0,0,0,-2,-2,0,0,2,2,-2,2,0,1,0,0,-2,0,0,0,-2,5,2,-4,2,0

A143379 Expansion of $q^{(-7/24)} * \eta(q) * \eta(q^4)^2 / \eta(q^2)$ in powers of q .

$$\frac{e^{\frac{7\pi}{24}} \sqrt{\pi} 2^{3/8}}{4 \Gamma\left(\frac{3}{4}\right)^2}$$

0.95670205236023273054389405599700

1,-1,0,-1,-1,1,1,-1,1,0,1,0,0,-2,-1,0,0,-1,1,1,-2,0,0,0,1,1,0,2,0,1,-1,-1,0,1,-1,0,0,1,0,-1,
-1,0,-1,-1,-1,0,0,0,1,0,1,0,1,-1,-1,2,0,-1,1,-1,1,0,3,1,-1,0,0,0,1,-2,0,0,-1,-1,0,-1,0,1,0,
0,1,-1,-1,-1,0,0,0,0,-1,0,-2,0,1,2,1,-1,0,2,1,0,0,0,0,1

A143380 Expansion of $q^{(-1/6)} * \eta(q^2)^5 / (\eta(q)^2 * \eta(q^4))$ in powers of q .

$$\frac{e^{\frac{\pi}{6}} \sqrt{\pi} 2^{1/8}}{2 \Gamma\left(\frac{3}{4}\right)^2}$$

1.0864310224299608719149013266052

1,2,0,0,1,-2,0,0,-3,0,0,0,-2,-2,0,0,2,-2,0,0,-1,2,0,0,0,2,0,0,1,2,0,0,2,-2,0,0,4,2,0,0,-2,0,0,
0,0,2,0,0,-1,0,0,0,-2,0,0,0,2,-4,0,0,-1,-2,0,0,0,0,0,0,-2,0,0,0,-2,-2,0,0,-2,2,0,0,0

A143894 Expansion of $(\chi(q)^5 * \chi(-q))^2$ in powers of q where $\chi()$ is a Ramanujan theta function.

$$4 e^{-\frac{\pi}{2}} 2^{3/4}$$

1.3984415244625323450802428482017

1,8,26,48,79,168,326,496,755,1296,2106,3072,4460,6840,10284,14448,20165,29184,
41640,56880,77352,107472,147902,197616,263019,354888,475516,624048,816065,

1076736,1413142,1826416,2353446,3050400,3936754,5022720

A143895 Expansion of $(\chi(q)^4 / \chi(-q))^2$ in powers of q where $\chi()$ is a Ramanujan theta function.

$$2 e^{-\frac{\pi}{4}} 2^{3/4}$$

1.5335869488636653125462841936773

1,10,47,150,403,1002,2316,5004,10309,20456,39240,73102,132779,235868,410785,
702630,1182342,1960418,3206675,5179670,8270086,13062994,20427293,31644200,
48589970,73994118,111802523,167685238,249745021,369499928

A144558 Expansion of Product_{n >= 1} (1+q^(2*n-1))/((1-q^(4*n))*(1+q^(4*n-2))).

$$\frac{2 e^{-\frac{\pi}{8}} 2^{11/16} \pi^{1/4} \Gamma\left(\frac{7}{8}\right) \sqrt{2-\sqrt{2}}}{\Gamma\left(\frac{5}{8}\right) \sqrt{\sqrt{2}} \sqrt{2+\sqrt{2}}}$$

1.0413572192436610578982888805836

1,1,-1,0,3,2,-3,-1,8,5,-8,-3,18,11,-19,-7,38,22,-41,-16,75,42,-82,-33,142,78,-157,-64,
258,138,-288,-120,455,239,-511,-215,781,404,-882,-374,1310,668,-1486,-635,2153,
1084,-2450,-1053,3477,1733,-3967,-1712,5524,2726,-6316,-2737,8652,4233,-9907

A145708 Expansion of $\psi(-q) / \psi(-q^5)$ in powers of q where $\psi()$ is a Ramanujan theta function.

$$\frac{e^{-\frac{\pi}{2}} 2^{3/5} 5^{1/4} \Gamma\left(\frac{3}{5}\right)^2 \Gamma\left(\frac{7}{10}\right) (5+\sqrt{5}) (\sqrt{5}+1)^2}{32 \pi \Gamma\left(\frac{9}{10}\right)}$$

0.95670553290826884811869042314062

1,-1,0,-1,0,1,0,0,-1,0,2,0,0,-1,0,2,-1,0,-2,0,3,-2,0,-3,0,5,-2,0,-3,0,6,-2,0,-4,0,8,-3,0,-6,0,
11,-5,0,-8,0,14,-6,0,-10,0,18,-6,0,-12,0,22,-9,0,-16,0,28,-13,0,-21,0,36,-14,0,-25,0,
44,-16,0

A145722 Expansion of $f(q) * f(q^5) / \phi(-q^2)^2$ in powers of q where $f()$, $\phi()$ are Ramanujan theta functions.

$$\frac{e^{\frac{\pi}{4}} 2^{19/20} 5^{3/4} \Gamma\left(\frac{9}{10}\right) \Gamma\left(\frac{7}{10}\right) (5 + \sqrt{5})}{100 \Gamma\left(\frac{4}{5}\right)^2}$$

1.0491688975141760272116939416669

1,1,3,4,8,12,21,30,48,68,102,143,207,284,400,542,744,996,1344,1776,2361,3088,4050,
5248,6808,8742,11232,14310,18224,23052,29133,36601,45936,57360,71528,88812,
110110,135990,167704,206108,252912,309408

A145740 McKay-Thompson series of class 20C for the Monster group with $a(0) = -2$.

$$\frac{128 e^{-\pi} 2^{1/5} \sqrt{5} \Gamma\left(\frac{9}{10}\right)^6 \Gamma\left(\frac{7}{10}\right)^6 (5 + \sqrt{5})^6 \left(\frac{\sqrt{5}}{4} - \frac{1}{4}\right)^6 \left(\frac{\sqrt{5}}{4} + \frac{1}{4}\right)^6}{625 \Gamma\left(\frac{4}{5}\right)^{12}}$$

0.91528547669729468790179014129066

1,-2,1,-2,2,2,-1,0,-4,2,5,-2,0,-8,2,8,-3,2,-14,6,14,-6,4,-24,12,24,-11,4,-40,16,38,-16,5,
-62,24,60,-24,10,-94,40,91,-38,18,-144,62,136,-57,24,-214,88,201,-82,30,-308,122,
288,-117,48,-440,180,410,-168

A147702 Expansion of $\eta(q) * \eta(q^{10})^3 / (\eta(q^2) * \eta(q^4) * \eta(q^5) * \eta(q^{20}))$ in powers of q .

$$\frac{(5 + \sqrt{5}) \Gamma\left(\frac{7}{10}\right) \Gamma\left(\frac{9}{10}\right) 5^{3/4} 2^{19/20}}{50 \Gamma\left(\frac{4}{5}\right)^2}$$

0.95671220568585560204582032423780

1,-1,0,-1,2,-1,0,-2,4,-3,0,-3,8,-4,0,-6,14,-8,0,-10,22,-12,0,-16,36,-21,0,-25,56,-30,0,-38,
84,-48,0,-57,126,-68,0,-84,184,-102,0,-121,264,-143,0,-172,376,-207,0,-243,528,
-284,0,-338,732,-400,0,-465,1008,-542,0,-636,1374,-744,0,-862,1856,-996,0

A153728 Expansion of $q^{(-1/3)} * (\eta(q)^8 + 8 * \eta(q^4)^8)$ in powers of q^2 .

$$\frac{3 e^{\frac{\pi}{6}} \pi^2 \sqrt{2}}{8 \Gamma\left(\frac{3}{4}\right)^8}$$

1.7376876160972844664507217900274

1,20,-70,56,-125,308,110,-520,57,0,182,-880,1190,884,0,-1400,-1330,1820,-646,0,-1331,

380,1120,2576,0,1748,-3850,-3400,2703,-2500,3458,0,-1150,-5236,0,6032,6160,
-3220,4466,0,-7378,-3920,0,2200,0,812,-4030,5600,-4913

A153729 Expansion of $q^{(-1/3)} * (\eta(q)^8 + 32 * \eta(q^4)^8)$ in powers of q .

$$\frac{3 e^{\frac{\pi}{3}} \pi^2}{8 \Gamma\left(\frac{3}{4}\right)^8}$$

2.0742102077022195875661423863218

1,24,20,0,-70,-192,56,0,-125,480,308,0,110,0,-520,0,57,-1680,0,0,182,1536,-880,0,1190,
1344,884,0,0,0,-1400,0,-1330,-3000,1820,0,-646,-3840,0,0,-1331,7392,380,0,1120,0,
2576,0,0,2640,1748,0,-3850,0,-3400,0,2703,-12480,-2500,0

A159814 Expansion of $\eta(z)^2 * \eta(4z)^6 / \eta(2z)$.

$$\frac{e^{\pi} \pi^{7/4} \sqrt{2}}{64 \Gamma\left(\frac{3}{4}\right)^7}$$

0.91356002247676666492576507638266

1,-2,0,0,-4,12,0,0,-3,-20,0,0,28,-8,0,0,-8,42,0,0,-72,-20,0,0,29,36,0,0,84,-72,0,0,24,-40,
0,0,-68,36,0,0,-112,24,0,0,84,248,0,0,-39,-158,0,0,-12,-144,0,0,216,-116,0,0,-108,
-16,0,0,80,144,0,0,48,152,0,0,-232,220

A159817 Coefficients of L-series for elliptic curve 80b2: $y^2 = x^3 - x^2 - x$.

$$\frac{e^{\frac{\pi}{2}} \pi (5 + \sqrt{5}) \sqrt{5}}{100 \Gamma\left(\frac{3}{4}\right)^4}$$

1.0844024944940588479441187498410

1,2,-1,-2,1,0,2,-2,-6,4,-4,-6,1,-4,6,4,0,2,2,4,6,10,-1,6,-3,-12,-6,0,8,-12,2,-2,-2,-12,12,
2,2,0,-8,-11,-6,6,12,-6,-4,8,-4,2,0,6,-14,4,6,2,4,-6,6,2,12,-11,12,-1,-2,20,0,-8,4,18,4,
12,0,-6,-6,-6,-20,-6,-4,-22,-12,12,10,0,-18,-9,4,-6,-2,-24

A159818 Expansion of $f(q) * f(q^5)$ in powers of q where $f()$ is a Ramanujan theta function.

$$\frac{e^{\frac{\pi}{4}} \sqrt{\pi} 2^{9/10} \Gamma\left(\frac{9}{10}\right)^2 \Gamma\left(\frac{7}{10}\right)^2 \left(\frac{\sqrt{5}}{4} - \frac{1}{4}\right)^2 \left(\frac{\sqrt{5}}{4} + \frac{1}{4}\right)^2 \sqrt{5} \left(\sqrt{5} \sqrt{2} \sqrt{5+\sqrt{5}}\right)^{7/2} \sqrt{4}}{1250 \Gamma\left(\frac{3}{4}\right)^2 \Gamma\left(\frac{4}{5}\right)^4 \sqrt{\sqrt{2} \sqrt{5+\sqrt{5}}}}$$

1.0413464814815762596849852205668

1,1,-1,0,0,0,1,-2,0,0,-2,-1,-1,0,0,2,0,0,0,0,1,0,2,0,0,-2,0,2,0,0,1,1,0,0,0,0,-2,2,0,0,0,0,1,
0,0,-2,0,0,0,0,0,-2,0,0,0,0,-1,-2,0,0,-2,-1,0,0,0,2,0,2,0,0,-2,0,1,0,0,0,2,0,0,0,0,0,0,0,
0,0,-2,0,0,1,0,2,0,0,0,0,2,0,0,2,1,-2,0,0

A159819 Coefficients of L-series for elliptic curve 48a4: $y^2 = x^3 + x^2 + x$.

$$\frac{3 e^{\frac{\pi}{2}} \pi \Gamma\left(\frac{11}{12}\right)^7 \Gamma\left(\frac{7}{12}\right)^7}{32 \Gamma\left(\frac{3}{4}\right)^{18}}$$

1.0394819037745574802700803092637

1,1,-2,0,1,-4,-2,-2,2,4,0,8,-1,1,6,-8,-4,0,6,-2,-6,-4,-2,0,-7,2,-2,8,4,-4,-2,0,4,4,8,-8,10,-1,
0,8,1,4,-4,6,-6,0,-8,-8,2,-4,-18,-16,0,12,-2,6,18,-16,-2,0,5,-6,12,8,-4,4,0,-2,-6,12,0,8,
-12

A160832 Expansion of $\eta(q) \cdot \eta(q^2) \cdot \eta(q^4)$, where $\eta(q) = \text{Product}((1-q^m), m=1..oo)$.

$$\frac{e^{\frac{7\pi}{24}} \pi^{3/4} 2^{1/4}}{4 \Gamma\left(\frac{3}{4}\right)^3}$$

0.95312887979532223835559611657665

1,-1,-2,1,-1,3,3,-1,-1,-3,2,-3,-2,0,0,1,2,4,-3,5,3,-2,-4,0,-2,-1,1,-2,2,-6,-3,-1,3,4,5,-3,2,2,
3,4,-7,1,4,-1,-3,1,-4,0,-4,1,-2,1,-2,-3,1,-5,0,4,1,3,5,1,4,-1,7,-5,-2,0,0,-1,-2,6,8,-5,-5,
-4,-3,0,-1,0,-6,-1,-3,3,-3,6,-2,-6,6,1,-4,6,0,5,6,7,-5,-4,4,-5,2,4,6,-4,-3

A164270 Expansion of $f(x^3)^3 \cdot \phi(x^3) / (f(x) \cdot \phi(x)^3)$ in powers of x where $f()$, $\phi()$ are Ramanujan theta functions.

$$\frac{e^{\frac{\pi}{3}} \Gamma\left(\frac{2}{3}\right)^2 \Gamma\left(\frac{7}{12}\right) (1+\sqrt{3})^2}{24 \pi \Gamma\left(\frac{11}{12}\right)}$$

0.74915039320635340364432750743917

1,-7,32,-114,350,-967,2468,-5916,13471,-29384,61784,-125838,249230,-481506,909788,
-1684824,3063657,-5478698,9648360,-16752522,28708214,-48599047,81338660,
-134687856,220802690,-358574468,577143752,-921144678,1458485460

A164271 Expansion of $(f(-q^2) * f(q^3) * f(-q^6) / f(q)^3)^2$ in powers of q where $f()$ is a Ramanujan theta function.

$$\frac{e^{\frac{2\pi}{3}\sqrt{3}}}{18}$$

0.78139811307150437932251450817101

1,-6,25,-84,248,-666,1662,-3912,8774,-18894,39289,-79248,155612,-298338,559812,
-1030224,1862647,-3313494,5807096,-10037796,17129888,-28886052,48170178,
-79492824,129900206,-210314976,337545438,-537278124,848509124

A164273 Expansion of $\phi(-q) * \phi(q^3)$ in powers of q where $\phi()$ is a Ramanujan theta function.

$$\frac{2^{1/4} \sqrt{3} \Gamma\left(\frac{2}{3}\right) \Gamma\left(\frac{11}{12}\right)^2 \Gamma\left(\frac{7}{12}\right)^3 (1 + \sqrt{3})}{8 \Gamma\left(\frac{3}{4}\right)^7}$$

0.91372658894753988546447256933285

1,-2,0,2,-2,0,0,4,0,-2,0,0,-2,-4,0,0,6,0,0,4,0,-4,0,0,0,-2,0,2,-4,0,0,4,0,0,0,0,-2,-4,0,4,0,0,
0,4,0,0,0,0,6,-6,0,0,-4,0,0,0,0,-4,0,0,0,-4,0,4,6,0,0,4,0,0,0,0,0,-4,0,2,-4,0,0,4,0,-2,0,0,
-4,0,0,0,0,0,0,8,0,-4,0,0,0,-4,0,0,-2,0,0,4,0

A164562 Taylor series coefficients of $\phi(-q^3) * \phi(q) / \phi(q^2)$, where ϕ is Euler's function.

$$\frac{e^{\frac{\pi}{12}} \pi^{1/4} 2^{23/24} \sqrt{3} \sqrt{\sqrt{2}(\sqrt{3}-1)} (\sqrt{2}(1+\sqrt{3}))^{2/3}}{12 \sqrt{\Gamma\left(\frac{11}{12}\right)} \sqrt{\Gamma\left(\frac{7}{12}\right)}}$$

0.95678592481567745894989096320825

1,-1,0,0,0,-1,-1,1,1,0,0,1,0,0,-1,0,1,0,-1,1,0,-1,-1,1,1,-1,-1,1,0,-1,-1,1,1,-1,-1,1,1,-1,-1,2,
2,-1,-1,1,1,-1,-2,1,2,-2,-1,2,1,-2,-2,2,3,-2,-2,2,2,-2,-3,2,3,-3,-2,2,2,-3,-3,3,3,-3,-3,3

A164614 Expansion of $(\chi(q) / \chi^3(q^3))^2$ in powers of q where $\chi()$ is a Ramanujan theta function.

$$-\frac{8 \pi^2 \Gamma\left(\frac{11}{12}\right)^4 e^{\frac{2\pi}{3}} \left(-\frac{7}{4} + \sqrt{3}\right) \sqrt{3}}{3 \Gamma\left(\frac{2}{3}\right)^4 \Gamma\left(\frac{3}{4}\right)^4}$$

1.0879443790262369019443670458150

1,2,1,-4,-8,-2,14,24,6,-38,-63,-16,92,150,36,-208,-329,-78,440,684,160,-884,-1358,-312,
1710,2592,590,-3196,-4796,-1082,5800,8632,1929,-10270,-15162,-3364,17784,26078,
5750,-30192,-44010,-9644,50369,73012,15916,-82698,-119280,-25880,133818

A164617 Expansion of $(\phi^3(q^3) / \phi(q)) * (\psi(-q^3) / \psi^3(-q))$ in powers of q
where $\phi()$, $\psi()$ are Ramanujan theta functions.

$$\frac{(1 + \sqrt{3})^2 \Gamma\left(\frac{7}{12}\right) \Gamma\left(\frac{2}{3}\right)^2}{6 \Gamma\left(\frac{11}{12}\right) \pi}$$

1.0515668461264171763394325203346

1,1,4,10,20,39,76,140,244,415,696,1140,1820,2861,4448,6816,10292,15372,22756,
33356,48408,69683,99600,141312,199036,278557,387608,536230,737632,1009464,
1374888,1863764,2514868,3378948,4521672,6027000,8002676

A169784 Number of solutions to $a^2 + b^2 + 5c^2 = n$.

$$\frac{8 \pi^{3/4} 2^{3/5} 5^{1/4} \Gamma\left(\frac{9}{10}\right)^3 \Gamma\left(\frac{7}{10}\right)^3 (5 + \sqrt{5})^3 \left(\frac{\sqrt{5}}{4} - \frac{1}{4}\right)^3 \left(\frac{\sqrt{5}}{4} + \frac{1}{4}\right)^3}{125 \Gamma\left(\frac{3}{4}\right)^3 \Gamma\left(\frac{4}{5}\right)^6}$$

1.1803409547748309383481603453841

1,4,4,0,4,10,8,8,4,12,24,0,0,16,8,16,4,8,20,0,10,16,24,8,8,44,8,0,8,16,40,16,4,16,24,0,
12,32,8,16,24,16,16,0,0,50,40,8,0,28,44,0,16,16,32,40,8,32,40,0,16,32,16,24,4,48,16,
0,8,16,80,16,20,40,24,0,0,16,32,32,10,36

A173763 Expansion of $(\eta(q^2))^7 / (\eta(q^4))^2)^4 + 16 * (\eta(q))^2 * \eta(q^2) * \eta(q^4)^2$ in powers of q .

$$\frac{3 e^{\pi} \pi^5}{256 \Gamma\left(\frac{3}{4}\right)^{20}}$$

1.4234135544143800281519656776406

1,16,-156,256,870,-2496,-952,4096,4653,13920,-56148,-39936,178094,-15232,-135720,

65536,-247662,74448,315380,222720,148512,-898368,204504,-638976,-1196225,
2849504,2344680,-243712,-3840450,-2171520,-1309408,1048576,8759088,-3962592,
-828240,1191168,4307078

A178902 Expansion of $q^{(-1/24)} * \eta(q^2)^{13} / (\eta(q)^5 * \eta(q^4)^5)$ in powers of q .

$$\frac{e^{\frac{\pi}{24}} \pi^{3/4} 2^{3/4}}{2 \Gamma\left(\frac{3}{4}\right)^3}$$

1.2291433445012703838522231668185

1,5,7,0,0,11,0,-13,0,0,0,0,-17,0,0,-19,0,0,0,0,0,-23,0,0,0,25,0,0,0,0,0,29,0,0,0,0,
31,0,0,0,0,0,0,0,0,0,35,0,0,0,0,0,-37,0,0,0,0,0,0,0,0,0,0,0,-41,0,0,0,0,0,-43,0,0,
0,0,0,0,0,0,0,0,0,0,0,0,-47,0,0,0,0,0

A180312 Number of solutions to $n = x + 4*y + 4*z$ in triangular numbers.

$$\frac{e^{\frac{9\pi}{8}} 2^{1/8} \Gamma\left(\frac{5}{8}\right)^3 \sqrt{2+\sqrt{2}}}{64 \pi^{3/4} \Gamma\left(\frac{7}{8}\right)^3}$$

1.0433019009575321863821322561855

1,1,0,1,2,2,1,2,1,1,3,1,2,2,3,3,2,2,3,4,0,1,4,1,3,5,2,5,3,3,3,4,2,2,5,0,4,4,2,5,6,2,2,4,5,6,
4,2,3,5,4,3,7,3,3,5,2,4,3,4,5,6,2,4,8,6,3,8,2,4,8,2,6,6,5,4,3,0,5,7,5,5,6,3,5,10,2,6,6,4,
10,5,4,3,10,5,4,4,2,9,8,3,7,7,0

A180318 Expansion of $a(-q)$ in powers of q where $a(q)$ is a cubic AGM function.

$$\frac{\pi \sqrt{3} \sqrt{2} (\sqrt{3} - 1)}{3 \Gamma\left(\frac{2}{3}\right) \Gamma\left(\frac{3}{4}\right) \Gamma\left(\frac{7}{12}\right)}$$

0.74025321398580672011948885410016

1,-6,0,-6,6,0,0,-12,0,-6,0,0,6,-12,0,0,6,0,0,-12,0,-12,0,0,0,-6,0,-6,12,0,0,-12,0,0,0,0,6,
-12,0,-12,0,0,0,-12,0,0,0,0,6,-18,0,0,12,0,0,0,0,-12,0,0,0,-12,0,-12,6,0,0,-12,0,0,0,0,
0,-12,0

A181648 Expansion of $x^{(-2/3)} * \psi(x) * c(x^2) / 3$ in powers of x where $\psi()$ is a Ramanujan theta function and $c()$ is a cubic AGM theta function.

$$\frac{e^{\frac{19\pi}{24}} \pi^{3/4} 2^{1/8} \Gamma\left(\frac{11}{12}\right)^{9/2} \Gamma\left(\frac{7}{12}\right)^{9/2} (\sqrt{3}-1)}{16 \Gamma\left(\frac{3}{4}\right)^{12} \sqrt{\sqrt{2}(\sqrt{3}-1)}}$$

1.0452501939334113989363653055342

1,1,1,2,2,3,1,2,3,2,4,3,3,3,4,3,2,2,6,5,3,5,3,5,4,5,3,4,5,4,5,4,5,7,6,7,3,3,7,4,8,4,4,5,7,6,
5,6,7,8,6,4,6,9,6,8,6,4,4,4,11,7,4,11,4,9,6,7,8,7,11,5,5,8,8,10,6,5,10,6,8,6,7,7,8

A182803 Number of 8-core partitions of n.

$$\frac{e^{\frac{21\pi}{8}} 2^{5/8} \Gamma\left(\frac{5}{8}\right)^7 (2+\sqrt{2})^{3/2}}{32768 \pi^{7/4} \Gamma\left(\frac{7}{8}\right)^7}$$

1.0472094699441565513701333025771

1,1,2,3,5,7,11,15,14,22,26,32,37,45,47,56,75,77,89,102,111,124,142,147,167,182,196,
210,242,249,288,322,299,349,382,393,423,467,453,499,570,563,602,669,649,716,
772,754,843,907,884

A182805 Number of 10-core partitions of n.

$$-\frac{e^{\frac{33\pi}{8}} \pi^{9/4} 2^{3/8} (-5+\sqrt{5})^5 \sqrt{5}}{400000000 \Gamma\left(\frac{3}{4}\right)^9}$$

1.0472094700458042983651808146275

1,1,2,3,5,7,11,15,22,30,32,46,57,71,85,106,121,147,165,190,242,267,302,350,400,443,
511,565,638,715,774,852,964,1038,1135,1253,1372,1482,1650,1785,1878,2098,2234,
2411,2625,2819,2963,3249,3393,3600,4004,4181

*A182818 G.f.: exp(Sum_{n>=1} sigma(2n)*x^n/n).*

$$\frac{e^{-\frac{\pi}{24}} 2^{5/8} \Gamma\left(\frac{3}{4}\right)^2}{\sqrt{\pi}}$$

1.1462712164811822918751275321870

1,3,8,19,41,83,161,299,538,942,1610,2694,4427,7153,11387,17884,27741,42543,64565,
97034,144519,213432,312720,454803,656835,942364,1343596,1904354,2684008,
3762667,5248002,7284132,10063319,13841107,18956002

A182820 G.f.: $\exp(\text{Sum}_{\{n \geq 1\}} \sigma(4n) x^n/n)$.

$$\frac{2 e^{-\frac{\pi}{24}} 2^{1/8} \Gamma\left(\frac{3}{4}\right)^4}{\pi}$$

1.3733936643854165822401597466276

1,7,32,119,385,1127,3057,7799,18914,43950,98434,213486,450051,925013,1858355,
3657052,7062245,13404195,25038741,46086250,83669927,149970936,265608168,
465149039,806022315,1382822644,2350101516,3958427938

A185152 Expansion of $(q/2) * \phi(q)^3 (d/dq) \phi(q)$ in powers of q .

$$\frac{e^{\pi}}{8 \Gamma\left(\frac{3}{4}\right)^4}$$

1.2827770603390144275643899893319

1,6,12,12,30,72,56,24,117,180,132,144,182,336,360,48,306,702,380,360,672,792,552,
288,775,1092,1080,672,870,2160,992,96,1584,1836,1680,1404,1406,2280,2184,720,
1722,4032,1892,1584,3510,3312,2256,576,2793,4650

A185653 Expansion of $\exp(\text{Sum}_{\{n \geq 1\}} -3 * \sigma(2n) x^n/n)$ in powers of x .

$$\frac{e^{\frac{\pi}{8}} \pi^{3/2} 2^{1/8}}{4 \Gamma\left(\frac{3}{4}\right)^6}$$

0.66395376585603998311103272132160

1,-9,30,-39,0,18,49,0,-192,110,81,78,-130,0,-30,-121,0,210,320,-270,0,-407,0,192,190,0,
0,0,351,-210,-418,0,-510,448,0,462,611,0,-960,50,0,0,-350,0,450,-361,-162,960,0,0,
798,-782,0,-1170,-290,-441,702,850,0,0,576

A186690 Expansion of $-(1/8) \theta_3''(0, q) / \theta_3(0, q)$ in powers of q .

$$\frac{e^{\pi}}{8 \pi}$$

0.92073890476925655240056628980189

1,-2,4,-4,6,-8,8,-8,13,-12,12,-16,14,-16,24,-16,18,-26,20,-24,32,-24,24,-32,31,-28,40,
-32,30,-48,32,-32,48,-36,48,-52,38,-40,56,-48,42,-64,44,-48,78,-48,48,-64,57,-62,72,
-56,54,-80,72,-64,80,-60,60,-96,62,-64

A186829 McKay-Thompson series of class 12A for the Monster group with $a(0) = 6$.

$$-\frac{3 e^{-\pi} \Gamma\left(\frac{2}{3}\right)^4 \Gamma\left(\frac{7}{12}\right)^2 (2 + \sqrt{3})}{\pi^2 \Gamma\left(\frac{11}{12}\right)^2 (-2 + \sqrt{3})}$$

1.2902123084362134439954585958193

1,6,15,32,87,192,343,672,1290,2176,3705,6336,10214,16320,25905,39936,61227,92928,
138160,204576,300756,435328,626727,897408,1271205,1790592,2508783,3487424,
4824825,6641664,9083400,12371904,16778784,22630912

A187053 Expansion of $(\psi(x^2) / \psi(x))^3$ in powers of x where $\psi()$ is a Ramanujan theta function.

$$\frac{e^{\frac{3\pi}{8}} 2^{1/8}}{4}$$

0.88554348204458867550498857621582

1,-3,9,-22,48,-99,194,-363,657,-1155,1977,-3312,5443,-8787,13968,-21894,33873,
-51795,78345,-117312,174033,-255945,373353,-540486,776848,-1109040,1573209,
-2218198,3109713,-4335840,6014123,-8300811,11402928

A187076 Coefficients of L-series for elliptic curve 144a1: $y^2 = x^3 - 1$.

$$\frac{e^{\frac{\pi}{6}} \pi}{2 \Gamma\left(\frac{3}{4}\right)^4}$$

1.1759280612073227748812286930210

1,4,2,-8,-5,4,-10,-8,9,0,14,16,-10,4,0,8,14,-20,2,0,-11,-20,-32,16,0,4,14,-8,-9,-20,26,0,2,
28,0,16,16,28,-22,0,14,-16,0,-40,0,28,26,-32,-17,0,-32,16,-22,0,-10,-32,-34,8,14,0,45,
4,38,-8,0,0,-34

A187146 McKay-Thompson series of class 12B for the Monster group with $a(0) = 5$.

$$-\frac{12 e^{-\pi} \Gamma\left(\frac{2}{3}\right)^2 \Gamma\left(\frac{3}{4}\right)^8}{\pi \Gamma\left(\frac{11}{12}\right)^5 \Gamma\left(\frac{7}{12}\right)^3 (-2 + \sqrt{3})}$$

1.2269427409097935816431003698947

1,5,6,-4,-3,12,-8,-12,30,-20,-30,72,-46,-60,156,-96,-117,300,-188,-228,552,-344,-420,
1008,-603,-732,1770,-1048,-1245,2976,-1776,-2088,4908,-2900,-3420,7992,-4658,

-5460,12756,-7408,-8583,19944,-11564,-13344,30756

A187147 McKay-Thompson series of class 12B for the Monster group with $a(0) = -4$.

$$\frac{9 e^{-\pi} \Gamma\left(\frac{2}{3}\right)^4 \Gamma\left(\frac{3}{4}\right)^4 (1 + \sqrt{3})^4}{16 \pi^2 \Gamma\left(\frac{11}{12}\right)^4}$$

0.83801747653584333367334073534917

1,-4,6,-4,-3,12,-8,-12,30,-20,-30,72,-46,-60,156,-96,-117,300,-188,-228,552,-344,-420,
1008,-603,-732,1770,-1048,-1245,2976,-1776,-2088,4908,-2900,-3420,7992,-4658,
-5460,12756,-7408,-8583,19944,-11564,-13344,30756

A187148 McKay-Thompson series of class 12B for the Monster group with $a(0) = -3$.

$$e^{-\pi} (1 + \sqrt{3})^3$$

0.88123139479961558344775847252105

1,-3,6,-4,-3,12,-8,-12,30,-20,-30,72,-46,-60,156,-96,-117,300,-188,-228,552,-344,-420,
1008,-603,-732,1770,-1048,-1245,2976,-1776,-2088,4908,-2900,-3420,7992,-4658,
-5460,12756,-7408,-8583,19944,-11564,-13344,30756

A187149 Expansion of $\psi(-x)^4 * \chi(-x^2)^2$ in powers of x where $\psi()$, $\chi()$ are Ramanujan theta functions.

$$\frac{e^{\frac{\pi}{3}} \pi 2^{3/4}}{8 \Gamma\left(\frac{3}{4}\right)^4}$$

0.83462102040484969754167751615689

1,-4,4,0,2,0,-8,0,-5,16,4,0,-10,0,-8,0,9,-8,0,0,14,0,16,0,-10,-32,4,0,0,0,8,0,14,20,-20,0,2,
0,0,0,-11,16,-20,0,-32,0,16,0,0,40,4,0,14,0,-8,0,-9,-32,-20,0,26,0,0,0,2,-36,28,0,0,0,
16,0,16,0,28,0,-22,0,0,0,14,-56,-16

A187150 Expansion of $\psi(-x)^4 / \chi(-x)^2$ in powers of x where $\psi()$, $\chi()$ are Ramanujan theta functions.

$$\frac{e^{\frac{7\pi}{12}} \pi 2^{3/4}}{16 \Gamma\left(\frac{3}{4}\right)^4}$$

0.91527881699028148914758065904100

1,-2,1,-2,0,4,1,2,-5,0,-5,4,1,-2,-5,0,7,4,7,0,-4,-10,7,-8,0,4,0,-8,2,0,1,-2,0,2,0,14,7,0,-5,
10,-11,-8,-10,-2,0,10,-4,4,0,0,-5,-8,-11,10,0,0,14,-2,20,0,-11,4,13,2,-5,-14,0,-14,13,0,
-11,-14,8,-2,0,10,13,-18,0,0,-5

A187154 Expansion of $\psi(x^4) / \phi(-x)$ in powers of x where $\phi()$, $\psi()$ are Ramanujan theta functions.

$$\frac{e^{\frac{\pi}{2}} 2^{1/4} \sqrt{2 - \sqrt{2}}}{4}$$

1.0945997402706352290224459097241

1,2,4,8,15,26,44,72,114,178,272,408,605,884,1276,1824,2580,3616,5028,6936,9498,
12922,17468,23472,31369,41700,55156,72616,95172,124202,161436,209016,269616,
346562,443952,566856,721530,915642,1158608,1461968,1839789

A189925 Expansion of θ_4/θ_3 in powers of q .

$$\frac{2^{3/4}}{2}$$

0.84089641525371454303112547623320

1,-4,8,-16,32,-56,96,-160,256,-404,624,-944,1408,-2072,3008,-4320,6144,-8648,12072,
-16720,22976,-31360,42528,-57312,76800,-102364,135728,-179104,235264,-307672,
400704,-519808,671744,-864960,1109904

A192096 Maximum number of tatami tilings of any $m \times m$ square region with exactly n horizontal dimers and m monomers.

$$e^{\frac{\pi}{12}} 2^{3/4}$$

2.1850960212171425276765586911362

2,4,6,12,18,28,44,64,92,132,186,256,352,476,638,852,1124,1472,1920,2484,3196,4096,
5216,6612,8350,10496,13140,16396,20380,25244,31178,38380,47104,57660,70380,
85684,104068,126080,152396,183808,221208,265664,318432

A192323 Expansion of $\theta_3(q^3) * \theta_3(q^5)$ in powers of q .

$$\frac{5^{3/4} \Gamma\left(\frac{2}{3}\right) \Gamma\left(\frac{7}{12}\right) (5 - \sqrt{5})^{3/2} (1 + \sqrt{3}) (\sqrt{5} + 1)^3}{1600 \Gamma\left(\frac{3}{4}\right)^3}$$

1.0001617004872419988720870205864

1,0,0,2,0,2,0,0,4,0,0,0,2,0,0,0,0,4,0,0,2,0,0,4,0,0,0,2,0,0,0,0,8,0,0,0,0,0,0,0,0,0,0,0,2,
0,4,6,0,0,0,0,4,0,0,0,4,0,0,0,0,0,0,0,0,4,0,0,0,4,0,0,2,0,0,0,0,6,0,0,4,0,0,0,0,0,0,0,
0,4,4,0,4,0,0,0,0,0,0,0,0,0

A195861 Expansion of $(\psi(x) / \phi(x))^5$ in powers of x where $\phi()$, $\psi()$ are Ramanujan theta functions.

$$\frac{e^{\frac{5\pi}{8}} 2^{7/8}}{16}$$

0.81661336731282095076262616612375

1,-5,20,-65,185,-481,1165,-2665,5820,-12220,24802,-48880,93865,-176125,323685,
-583798,1035060,-1806600,3108085,-5276305,8846884,-14663645,24044285,
-39029560,62755345,-100004806,158022900,-247710570,385366265

A204342 $a(n) = (-1)^n * \text{Sum}_{\{2^m + 1 \mid 2^n + 1\}} (-1)^m (2^m + 1)^4.$

$$\frac{e^{\frac{\pi}{2}} \pi^{5/2} 3^{3/4}}{3 \Gamma\left(\frac{11}{12}\right)^5 \Gamma\left(\frac{7}{12}\right)^5}$$

5.8448203826931346236164576679803

1,80,626,2400,6481,14640,28562,50080,83522,130320,192000,279840,391251,524960,
707282,923520,1171200,1502400,1874162,2284960,2825762,3418800,4057106,
4879680,5762401,6681760,7890482,9164640,10425600

A204372 Expansion of $\phi(x)^2 * (5 * \phi(-x)^8 + 64 * x * \psi(-x)^8)$ in powers of x where $\phi()$, $\psi()$ are Ramanujan theta functions.

$$\frac{9 \pi^{5/2}}{4 \Gamma\left(\frac{3}{4}\right)^{10}}$$

5.1548881328575593576436542965337

5,4,4,-320,4,2504,-320,-9600,4,25924,2504,-58560,-320,114248,-9600,-200320,4,
334088,25924,-521280,2504,768000,-58560,-1119360,-320,1565004,114248,
-2099840,-9600,2829128,-200320,-3694080,4,4684800

A204386 Expansion of $(\theta_2(q)^8 + 4 * \theta_2(q^2)^8) / 256$ in powers of q^2 .

$$\frac{9 e^{\pi} \pi^2}{256 \Gamma\left(\frac{3}{4}\right)^8}$$

1.5790950766966857414417851785135

1,12,28,96,126,336,344,768,757,1512,1332,2688,2198,4128,3528,6144,4914,9084,6860,
12096,9632,15984,12168,21504,15751,26376,20440,33024,24390,42336,29792,
49152,37296,58968,43344,72672,50654,82320,61544,96768

A204531 Expansion of $\phi(q) * \phi(-q^4)$ in powers of q where $\phi()$ is a Ramanujan theta function.

$$\frac{2^{3/16} \Gamma\left(\frac{5}{8}\right)^2 (2 + \sqrt{2})}{4 \sqrt{\pi} \Gamma\left(\frac{7}{8}\right)^2 (2 - \sqrt{2})^{1/4}}$$

1.0864272336730392063901019883307

1,2,0,0,0,-4,0,0,-4,2,0,0,0,-4,0,0,4,4,0,0,0,0,0,0,6,0,0,0,-4,0,0,4,0,0,0,0,-4,0,0,-8,4,0,0,
0,-4,0,0,0,2,0,0,0,-4,0,0,0,0,0,0,0,-4,0,0,4,8,0,0,0,0,0,0,-4,4,0,0,0,0,0,0,8,2,0,0,0,-8,0,
0,0,4,0,0,0,0,0,0,0,4,0

A204850 Expansion of $f(x)^3 - 9 * x * f(x^9)^3$ in powers of x where $f()$ is a Ramanujan theta function.

$$\frac{e^{\frac{\pi}{8}} \pi^{13/12} 2^{3/4} 3^{5/12} \Gamma\left(\frac{11}{12}\right)^{2/3}}{3 \Gamma\left(\frac{2}{3}\right)^{2/3} \Gamma\left(\frac{3}{4}\right)^{11/3} (\sqrt{2} (1 + \sqrt{3}))^{2/3}}$$

0.74031294724222122764334259111946

1,-6,0,-5,0,0,-7,0,0,0,-18,0,0,0,0,11,0,0,0,0,0,-13,0,0,0,0,0,30,0,0,0,0,0,0,17,0,0,0,0,
0,0,0,0,19,0,0,0,0,0,0,0,0,0,42,0,0,0,0,0,0,0,0,-23,0,0,0,0,0,0,0,0,0,0,25,0,0,0

A207541 Expansion of $\phi(q)^3 * \phi(-q)$ in powers of q where $\phi()$ is a Ramanujan theta function.

$$\frac{2^{3/4} \pi}{2 \Gamma\left(\frac{3}{4}\right)^4}$$

1.1715401901900738461058622785598

1,4,0,-16,-8,24,0,-32,24,52,0,-48,-32,56,0,-96,24,72,0,-80,-48,128,0,-96,96,124,0,-160,
-64,120,0,-128,24,192,0,-192,-104,152,0,-224,144,168,0,-176,-96,312,0,-192,96,228,

0,-288,-112,216,0,-288,192,320,0

A208451 Expansion of $\phi(q) * \phi(-q)^3$ in powers of q where $\phi()$ is a Ramanujan theta function.

$$\frac{\pi 2^{1/4}}{2 \Gamma\left(\frac{3}{4}\right)^4}$$

0.82840401291597881768825830660690

1,-4,0,16,-8,-24,0,32,24,-52,0,48,-32,-56,0,96,24,-72,0,80,-48,-128,0,96,96,-124,0,160,-64,-120,0,128,24,-192,0,192,-104,-152,0,224,144,-168,0,176,-96,-312,0,192,96,-228,0,288,-112,-216,0,288,192,-320

A208589 Expansion of $\phi(x) / \psi(x^4)$ in powers of x where $\phi()$, $\psi()$ are Ramanujan theta functions.

$$2 e^{-\frac{\pi}{2}} \sqrt{2} \sqrt{2 + \sqrt{2}}$$

1.0864310224563862568959917720806

1,2,0,0,1,-2,0,0,-1,4,0,0,0,-6,0,0,1,8,0,0,0,-12,0,0,-1,18,0,0,-1,-24,0,0,2,32,0,0,1,-44,0,0,-2,58,0,0,-1,-76,0,0,2,100,0,0,1,-128,0,0,-3,164,0,0,-1,-210,0,0,4,264,0,0,2,-332,0,0,-5,416

A208845 Expansion of $f(x)^2$ in powers of x where $f()$ is a Ramanujan theta function.

$$\frac{e^{\frac{\pi}{12}} \sqrt{\pi} \sqrt{2}}{2 \Gamma\left(\frac{3}{4}\right)^2}$$

1.0844021676515234515649699384462

1,2,-1,-2,1,-2,-2,0,-2,2,1,0,0,-2,3,2,2,0,0,2,-2,0,0,2,-1,0,2,-2,-2,-2,1,-2,0,-2,-2,2,2,0,-2,0,-4,0,0,0,1,2,0,0,2,0,2,-2,1,2,0,-2,2,0,0,2,0,2,0,2,2,0,-4,0,0,2,-1,-2,0,-2,0,0,0,2,2

A208850 Expansion of $\phi(q^2) / \phi(-q)$ in powers of q where $\phi()$ is a Ramanujan theta function.

$$\frac{2^{1/4} \sqrt{2 + \sqrt{2}}}{2}$$

1.0986841134678099660398011952407

1,2,6,12,22,40,68,112,182,286,440,668,996,1464,2128,3056,4342,6116,8538,11820,16248,22176,30068,40528,54308,72378,95976,126648,166352,217560,283344,

367552,474998,611624,784812,1003712,1279562,1626216,2060708,2603856

A208978 Expansion of $f(x) * f(x^3)$ where $f()$ is a Ramanujan theta function.

$$\frac{e^{\frac{\pi}{6}} \pi^{1/3} 3^{2/3} \Gamma\left(\frac{2}{3}\right)^{1/3} (\sqrt{2} (1 + \sqrt{3}))^{1/3}}{6 \Gamma\left(\frac{3}{4}\right)^{5/3} \Gamma\left(\frac{11}{12}\right)^{1/3}}$$

1.0414303539132480988035534226452

1,1,-1,1,1,-2,-1,-2,0,0,-1,1,-1,1,0,-1,-1,1,2,0,1,-2,1,1,0,1,2,1,0,1,-1,0,-1,1,0,1,-2,-2,2,0,
-1,-1,0,-1,0,1,2,-2,1,0,-2,-2,-1,0,-1,1,-1,-1,-1,0,0,1,-1,1,0,0,2,2,-1,0,-1,-1,2,-2,0,0,2

A209676 Expansion of $f(x)^{12}$ in powers of x where $f()$ is a Ramanujan theta function.

$$\frac{e^{\frac{\pi}{2}} \pi^3}{8 \Gamma\left(\frac{3}{4}\right)^{12}}$$

1.6260813253864729073004449378885

1,12,54,88,-99,-540,-418,648,594,-836,1056,4104,-209,-4104,-594,-4256,-6480,4752,
-298,-5016,17226,12100,-5346,1296,-9063,7128,19494,-29160,-10032,7668,-34738,
-8712,-22572,-21812,49248,46872,67562,-2508,-47520,76912

A209939 Expansion of $(f(x) * f(x^3))^3$ in powers of q where $f()$ is a Ramanujan theta function.

$$\frac{e^{\frac{\pi}{2}} \pi 3^{1/4} \Gamma\left(\frac{2}{3}\right) \Gamma\left(\frac{7}{12}\right) (1 + \sqrt{3})}{24 \Gamma\left(\frac{3}{4}\right)^7}$$

1.1295115985505156097346351204476

1,3,0,-2,9,0,-22,0,0,-26,-6,0,25,27,0,46,0,0,26,-66,0,22,0,0,-45,0,0,0,-78,0,74,-18,0,
-122,0,0,-46,75,0,142,81,0,0,0,0,44,138,0,2,0,0,-194,0,0,-214,78,0,0,-198,0,121,0,0,
-146,66,0,52,0,0,22

A209940 Expansion of $\psi(x^4) * \phi(-x^4)^4 / \phi(x)$ in powers of x where $\phi()$, $\psi()$ are Ramanujan theta function.

$$\frac{e^{\frac{\pi}{2}} \Gamma\left(\frac{5}{8}\right)^4 2^{1/4} (3 + 2\sqrt{2}) \sqrt{2 + \sqrt{2}}}{64 \pi \Gamma\left(\frac{7}{8}\right)^4}$$

0.92041931874526278414769995064653

1,-2,4,-8,7,-10,12,-8,18,-18,16,-24,21,-20,28,-32,20,-32,36,-24,42,-42,28,-48,57,-36,52,
-40,36,-58,60,-56,48,-66,48,-72,74,-42,80,-80,61,-82,72,-56,90,-96,64,-72,98,-70,100,
-104,64,-106,108,-72,114,-96

A209941 Expansion of $f(x)^6$ in powers of x where $f()$ is a Ramanujan theta function.

$$\frac{e^{\frac{\pi}{4}} \pi^{3/2} \sqrt{2}}{4 \Gamma\left(\frac{3}{4}\right)^6}$$

1.2751789385754741625795557274534

1,6,9,-10,-30,0,11,-42,0,70,18,54,49,-90,0,22,-60,0,-110,0,81,-180,-78,0,130,198,0,182,
-30,-90,121,-84,0,0,210,0,-252,102,-270,-170,0,0,-69,-330,0,38,420,0,-190,390,0,108,
0,0,0,300,99,-442,210,0,418

A209942 Expansion of $(\psi(-x) * \phi(x)^4)^2$ in powers of x where $\phi()$, $\psi()$ are Ramanujan theta functions.

$$\frac{e^{\frac{\pi}{4}} \pi^{5/2} \sqrt{2}}{4 \Gamma\left(\frac{3}{4}\right)^{10}}$$

1.7765843082757609558441538234737

1,14,81,238,322,0,-429,-82,0,-2162,-3038,1134,2401,-2482,0,6958,3332,0,1442,0,6561,
4508,-9758,0,-1918,-18802,0,-9362,-24638,19278,14641,-14756,0,0,6562,0,-1148,
33998,26082,20398,0,0,28083,-49042,0,64078,-30268,0

A210030 Expansion of $\phi(-q) / \phi(q^2)$ in powers of q where $\phi()$ is a Ramanujan theta function.

$$2^{1/4} \sqrt{2 - \sqrt{2}}$$

0.91017972112445468260871551564496

1,-2,-2,4,6,-8,-12,16,22,-30,-40,52,68,-88,-112,144,182,-228,-286,356,440,-544,-668,
816,996,-1210,-1464,1768,2128,-2552,-3056,3648,4342,-5160,-6116,7232,8538,
-10056,-11820,13872,16248,-18996,-22176,25844,30068

A210063 Expansion of $\psi(x^4) / \phi(x)$ in powers of x where $\phi()$, $\psi()$ are Ramanujan theta functions.

$$\frac{e^{\frac{\pi}{2}} \sqrt{2 - \sqrt{2}}}{4}$$

0.92044499773122416676243157167018

1,-2,4,-8,15,-26,44,-72,114,-178,272,-408,605,-884,1276,-1824,2580,-3616,5028,-6936,
9498,-12922,17468,-23472,31369,-41700,55156,-72616,95172,-124202,161436,
-209016,269616,-346562,443952,-566856,721530,-915642,1158608

A210065 Expansion of $\phi(q^2) / \phi(q)$ in powers of q where $\phi()$ is a Ramanujan theta function.

$$\frac{\sqrt{2 + \sqrt{2}}}{2}$$

0.92387953251128675612818318939680

1,-2,6,-12,22,-40,68,-112,182,-286,440,-668,996,-1464,2128,-3056,4342,-6116,8538,
-11820,16248,-22176,30068,-40528,54308,-72378,95976,-126648,166352,-217560,
283344,-367552,474998,-611624,784812,-1003712,1279562,-1626216

A210066 Expansion of $(\phi(q^2) / \phi(q))^2$ in powers of q where $\phi()$ is a Ramanujan theta function.

$$\frac{1}{2} + \frac{\sqrt{2}}{4}$$

0.85355339059327376220042218105242

1,-4,16,-48,128,-312,704,-1504,3072,-6036,11488,-21264,38400,-67864,117632,
-200352,335872,-554952,904784,-1457136,2320128,-3655296,5702208,-8813472,
13504512,-20523996,30952544,-46340832,68901888,-101777112,149403264,
-218016640

A210067 Expansion of $(\phi(-q) / \phi(q^2))^2$ in powers of q where $\phi()$ is a Ramanujan theta function.

$$(2 - \sqrt{2}) \sqrt{2}$$

0.82842712474619009760337744841939

1,-4,0,16,0,-56,0,160,0,-404,0,944,0,-2072,0,4320,0,-8648,0,16720,0,-31360,0,57312,0,
-102364,0,179104,0,-307672,0,519808,0,-864960,0,1419456,0,-2299832,0,3682400,0,

-5831784,0,9141808,0,-14194200,0,21842368,0

A210458 Expansion of $q * (\psi(-q^5) / \psi(-q))^2$ in powers of q where $\psi()$ is a Ramanujan theta function.

$$\frac{e^{\pi} 2^{4/5} \sqrt{5} \Gamma\left(\frac{4}{5}\right)^{12} (5 - \sqrt{5})^6 (\sqrt{5} + 1)^6 (\sqrt{5} - 1)^6}{131072000 \Gamma\left(\frac{9}{10}\right)^6 \Gamma\left(\frac{7}{10}\right)^6}$$

1.0925553015528971334712038843911

1,2,3,6,11,16,24,38,57,82,117,168,238,328,448,614,834,1114,1480,1966,2592,3384,
4398,5704,7361,9436,12045,15344,19470,24576,30922,38822,48576,60548,75259,
93342,115454,142360,175104,214958,263262,321584,391993,476952

A210459 McKay-Thompson series of class 20A for the Monster group with $a(0) = 4$.

$$\frac{e^{-\pi} (5 + \sqrt{5})^4}{100}$$

1.1847704085642981250309836438926

1,4,6,8,17,32,54,80,116,192,290,408,585,832,1192,1648,2237,3072,4156,5576,7414,
9824,12964,16896,22002,28544,36794,47184,60185,76736,97388,122864,154615,
194048,242904,302800,376271,466720,577176,711840,875611,1074752

A212885 Expansion of $\phi(q) * \phi(-q)^2$ in powers of q where $\phi()$ is a Ramanujan theta function.

$$\frac{\pi^{3/4} \sqrt{2}}{2 \Gamma\left(\frac{3}{4}\right)^3}$$

0.90676765516773122024659616867990

1,-2,-4,8,6,-8,-8,0,12,-10,-8,24,8,-8,-16,0,6,-16,-12,24,24,-16,-8,0,24,-10,-24,32,0,-24,
-16,0,12,-16,-16,48,30,-8,-24,0,24,-32,-16,24,24,-24,-16,0,8,-18,-28,48,24,-24,-32,0,
48,-16,-8,72,0,-24,-32

A213022 Expansion of $\phi(x)^2 * \psi(x)$ in powers of x where $\phi()$, $\psi()$ are Ramanujan theta functions.

$$\frac{e^{\frac{\pi}{8}} \pi^{3/4} 2^{3/8}}{2 \Gamma\left(\frac{3}{4}\right)^3}$$

1.2314430017891902761255239757380

1,5,8,5,8,16,9,8,16,8,17,24,8,16,16,13,24,16,16,24,32,13,8,32,8,24,40,16,25,24,24,24,
32,16,16,40,17,32,32,16,40,48,16,16,32,21,48,32,16,24,40,32,24,56,24,45,40,16,32,
24,32,40,48,16,32,64,25,24

A213023 Expansion of $\psi(x)^2 * \psi(-x^3) / \chi(-x^2)$ in powers of x where $\psi()$, $\chi()$ are Ramanujan theta functions.

$$\frac{e^{\frac{17\pi}{24}} \pi^{5/4} 2^{5/8} \sqrt{3} \Gamma\left(\frac{11}{12}\right) (\sqrt{3} - 1)}{24 \Gamma\left(\frac{2}{3}\right) \Gamma\left(\frac{3}{4}\right)^4}$$

1.0904121238696751755684546879246

1,2,2,3,2,2,4,4,5,3,4,5,4,6,4,4,5,7,5,3,6,8,8,8,6,3,7,6,10,6,5,10,4,8,7,8,10,6,9,8,5,10,10,
11,6,9,11,6,12,9,8,8,10,9,6,6,15,12,9,9,6,13,10,13,10,7,14,12,12,8,7,13,10,16,9,10,
10,12

A213056 Expansion of $\chi(x) * f(x^3)^3$ in powers of x where $\chi()$, $f()$ are Ramanujan theta functions.

$$\frac{e^{\frac{\pi}{3}} \pi^{1/4} \sqrt{3} \Gamma\left(\frac{2}{3}\right) \Gamma\left(\frac{11}{12}\right)^5 \Gamma\left(\frac{7}{12}\right)^6 \sqrt{2} (1 + \sqrt{3})}{32 \Gamma\left(\frac{3}{4}\right)^{14}}$$

1.0435508436413775827974075830945

1,1,0,4,4,1,4,4,5,0,0,8,4,4,4,8,9,4,0,4,12,1,4,8,8,4,0,8,8,4,8,16,8,5,0,12,12,0,8,12,13,0,0,
8,8,8,12,8,16,4,0,16,12,4,4,20,13,4,0,16,20,8,8,8,8,9,0,12,16,4,12,12,16,0,0,16,20,4,8

A213384 Expansion of $\phi(-q)^3$ in powers of q where $\phi()$ is a Ramanujan theta function.

$$\frac{\pi^{3/4} 2^{1/4}}{2 \Gamma\left(\frac{3}{4}\right)^3}$$

0.76249767069856154805522422418730

1,-6,12,-8,6,-24,24,0,12,-30,24,-24,8,-24,48,0,6,-48,36,-24,24,-48,24,0,24,-30,72,-32,0,
-72,48,0,12,-48,48,-48,30,-24,72,0,24,-96,48,-24,24,-72,48,0,8,-54,84,-48,24,-72,96,
0,48,-48,24,-72,0,-72,96

A213622 Expansion of $\phi(x) * \psi(x) * \phi(x^2)$ in powers of x where $\phi()$, $\psi()$ are

Ramanujan theta functions.

$$\frac{e^{\frac{\pi}{8}} 2^{1/8} \Gamma\left(\frac{5}{8}\right)^3 (2 + \sqrt{2})^2}{16 \pi^{3/4} \Gamma\left(\frac{7}{8}\right)^3}$$

1.1377049848072927727073474476363

1,3,4,7,8,4,9,8,4,16,9,8,20,8,8,11,8,12,20,20,8,15,16,12,20,16,8,24,21,8,20,8,16,28,24,8,
17,32,12,36,16,8,24,16,24,19,20,20,32,16,12,28,16,20,44,27,12,36,24,16,28,24,16,28,
32,12,25,32,12,48

A213624 Expansion of $\psi(x)^2 * \psi(x^4)$ in powers of x where $\psi()$ is a Ramanujan theta function.

$$\frac{e^{\frac{3\pi}{4}} \sqrt{2} \Gamma\left(\frac{5}{8}\right)^3 (1 + \sqrt{2})}{32 \pi^{3/4} \Gamma\left(\frac{7}{8}\right)^3}$$

1.0884674689257645171882566709949

1,2,1,2,3,2,4,4,2,2,5,4,2,6,3,6,7,2,5,4,5,6,6,2,5,10,3,6,10,4,6,8,3,8,7,6,7,6,4,6,11,6,9,10,
3,6,14,4,8,10,8,10,5,6,4,16,7,4,10,4,13,14,7,8,8,6,10,12,7,12,15,8,8,10,4,6,17,6,10,10

A213625 Expansion of $\psi(x)^2 * \phi(x^2)$ in powers of x where $\phi()$, $\psi()$ are Ramanujan theta functions.

$$\frac{e^{\frac{\pi}{4}} \Gamma\left(\frac{5}{8}\right)^3 (2 + \sqrt{2})^2 \sqrt{2}}{32 \pi^{3/4} \Gamma\left(\frac{7}{8}\right)^3}$$

1.0925289602568129202320896095336

1,2,3,6,4,4,7,2,8,10,4,10,9,6,8,10,4,8,16,8,9,12,8,12,20,6,8,10,8,18,11,12,8,20,12,8,20,6,
20,26,8,8,15,10,16,18,12,16,20,10,16,16,8,24,24,8,21,26,8,20,20,14,8,28,16,10,28,10,
24,22,8,16,17

A213791 Expansion of $\psi(-x)^6$ in powers of x where $\psi()$ is a Ramanujan theta function.

$$\frac{e^{\frac{3\pi}{4}} \pi^{3/2} \sqrt{2}}{32 \Gamma\left(\frac{3}{4}\right)^6}$$

0.76677743008759049765519721524944

1,-6,15,-26,45,-66,82,-120,156,-170,231,-276,290,-390,435,-438,561,-630,651,-780,861,
-842,1020,-1170,1095,-1326,1431,-1370,1716,-1740,1682,-2016,2145,-2132,2415,
-2550,2353,-2850,3120,-2810,3321,-3486,3285,-3906,4005

A214361 Expansion of $c(q^2) * (c(q) + 2 * c(q^4)) / 9$ in powers of q where $c()$ is a cubic AGM theta function.

$$\frac{e^{\pi} \pi^2 \sqrt{2} 3^{3/4} (\sqrt{3} - 1)^2}{54 \Gamma\left(\frac{2}{3}\right)^2 \Gamma\left(\frac{3}{4}\right)^2 \Gamma\left(\frac{7}{12}\right)^2}$$

1.1355085149716102483820776453811

1,3,3,3,6,9,8,3,9,18,12,9,14,24,18,3,18,27,20,18,24,36,24,9,31,42,27,24,30,54,32,3,36,
54,48,27,38,60,42,18,42,72,44,36,54,72,48,9,57,93,54,42,54,81,72,24,60,90,60,54,62,
96,72,3,84,108,68,54

A214456 Expansion of $b(q^2) * (b(q) + 2 * b(q^4)) / 3$ in powers of q where $b()$ is a cubic AGM theta function.

$$-\frac{\Gamma\left(\frac{2}{3}\right)^2}{4 \Gamma\left(\frac{11}{12}\right)^3 \Gamma\left(\frac{7}{12}\right) (-2 + \sqrt{3})}$$

0.95157598030147170008173396635452

1,-1,-3,5,-3,-6,15,-8,-3,23,-18,-12,15,-14,-24,30,-3,-18,69,-20,-18,40,-36,-24,15,-31,-42,
77,-24,-30,90,-32,-3,60,-54,-48,69,-38,-60,70,-18,-42,120,-44,-36,138,-72,-48,15,-57,
-93,90,-42,-54,231,-72,-24,100

A215472 Expansion of $(\psi(x) * \phi(-x)^4)^2$ in powers of x where $\phi()$, $\psi()$ are Ramanujan theta functions.

$$\frac{e^{\frac{\pi}{4}} \pi^{5/2} 2^{3/4}}{16 \Gamma\left(\frac{3}{4}\right)^{10}}$$

0.52818167495093062879028760966912

1,-14,81,-238,322,0,-429,82,0,2162,-3038,-1134,2401,2482,0,-6958,3332,0,1442,0,6561,
-4508,-9758,0,-1918,18802,0,9362,-24638,-19278,14641,14756,0,0,6562,0,-1148,
-33998,26082,-20398,0,0,28083,49042,0,-64078,-30268

A215596 Expansion of $\psi(-x) * f(-x^4)^3$ in powers of x where $\psi()$, $f()$ are Ramanujan

theta functions.

$$\frac{e^{\frac{5\pi}{8}} \pi 2^{5/8}}{16 \Gamma\left(\frac{3}{4}\right)^4}$$

0.95669537965341888959903481854650

1,-1,0,-1,-3,3,1,3,0,0,-2,0,5,-5,-3,-6,0,0,5,3,0,-1,5,0,-7,10,0,2,1,0,-7,0,-3,-5,-7,0,1,0,0,7,
11,-9,0,-9,0,6,9,0,5,3,9,0,-7,0,0,-10,0,-5,0,3,-18,2,0,11,0,0,-10,-5,9,7,-14,0,0,0,0,11,9

A215597 Expansion of $\psi(-x) * f(-x)^3$ in powers of x where $\psi()$, $f()$ are Ramanujan theta functions.

$$\frac{e^{\frac{\pi}{4}} \pi 2^{1/8}}{4 \Gamma\left(\frac{3}{4}\right)^4}$$

0.83306240802129926475347776774885

1,-4,3,4,-2,0,-11,4,0,12,10,-12,-7,-4,0,-12,16,0,6,0,9,8,-10,0,-18,-20,0,20,-14,12,11,24,0,
0,-22,0,16,-20,-6,-12,0,0,-3,4,0,-20,48,0,14,28,0,-40,0,0,0,-8,-33,-4,-26,0,30,28,0,0,2,
12,-16,20,0

A215598 Expansion of $\phi(-x^2) * f(x)^3$ in powers of x where $\phi()$, $f()$ are Ramanujan theta functions.

$$\frac{e^{\frac{\pi}{8}} \pi 2^{1/8}}{2 \Gamma\left(\frac{3}{4}\right)^4}$$

1.1250206362629498773642599133003

1,3,-2,-11,0,10,-7,0,16,6,9,-10,-18,0,-14,11,0,-22,16,-6,0,-3,0,48,14,0,0,0,-33,-26,30,0,2,
-16,0,-10,-13,0,-48,26,0,0,18,0,34,19,30,-16,0,0,-2,-6,0,22,-34,-21,14,42,0,0,-48,0,0,
-80,0,-22,-23,0

A215600 Expansion of $\psi(-x)^2 * f(-x)^6$ in powers of x where $\psi()$, $f()$ are Ramanujan theta functions.

$$\frac{e^{\frac{\pi}{2}} \pi^2 2^{1/4}}{16 \Gamma\left(\frac{3}{4}\right)^8}$$

0.69399297565824569756877708982975

1,-8,22,-16,-27,40,-18,80,-94,-40,0,-48,359,-80,-130,-320,0,160,214,400,-230,-152,-594,
416,-343,240,518,-400,0,200,830,-592,-396,-776,0,-400,1098,200,0,1120,729,-552,
-2068,272,-1670,800,0,400,594,1480,598,48

A215601 Expansion of $\phi(-x)^2 * f(-x)^6 + 32 * x * \psi(-x)^2 * f(-x^4)^6$ in powers of x where $\phi()$, $\psi()$, $f()$ are Ramanujan theta functions.

$$\frac{3 e^{\frac{\pi}{4}} \pi^2 2^{1/4}}{8 \Gamma\left(\frac{3}{4}\right)^8}$$

1.8985071480262388589090990310000

1,22,-27,-18,-94,0,359,-130,0,214,-230,-594,-343,518,0,830,-396,0,1098,0,729,-2068,
-1670,0,594,598,0,-1746,2002,486,-1331,5148,0,0,-1606,0,-2860,-3514,2538,286,0,0,
-1873,-4082,0,3942,4708,0,5362,1174,0,-5060

A216711 Expansion of $q * (\phi(q) * \psi(-q))^8$ in powers of q where $\phi()$, $\psi()$ are Ramanujan theta functions.

$$\frac{e^{\pi} \pi^4}{64 \Gamma\left(\frac{3}{4}\right)^{16}}$$

1.3622447502336276207048119559019

1,8,12,-64,-210,96,1016,512,-2043,-1680,1092,-768,1382,8128,-2520,-4096,14706,
-16344,-39940,13440,12192,8736,68712,6144,-34025,11056,-50760,-65024,-102570,
-20160,227552,32768,13104,117648,-213360,130752,160526,-319520

A219601 Number of partitions of n in which no parts are multiples of 6.

$$\frac{e^{\frac{5\pi}{24}} 2^{3/8} 3^{7/12} \pi^{1/6} \Gamma\left(\frac{11}{12}\right)^{1/3}}{3 \Gamma\left(\frac{2}{3}\right)^{1/3} \Gamma\left(\frac{3}{4}\right)^{1/3} (\sqrt{2} (1 + \sqrt{3}))^{1/3}}$$

1.0472094632261824240604159887932

1,1,2,3,5,7,10,14,20,27,37,49,65,85,111,143,184,234,297,374,470,586,729,902,1113,
1367,1674,2042,2485,3013,3645,4395,5288,6344,7595,9070,10809,12852,15252,
18062,21352,25191,29671,34884,40948,47985,56146,65592

A223903 McKay-Thompson series of class 20C for the Monster group with $a(0) = -1$.

$$\frac{e^{-\pi} (5 + \sqrt{5})^5 \sqrt{5}}{2000}$$

0.95849939496106693767620787846270

1,-1,1,-2,2,2,-1,0,-4,2,5,-2,0,-8,2,8,-3,2,-14,6,14,-6,4,-24,12,24,-11,4,-40,16,38,-16,5,
-62,24,60,-24,10,-94,40,91,-38,18,-144,62,136,-57,24,-214,88,201,-82,30,-308,122,
288,-117,48,-440,180,410

A224916 Expansion of $\chi(x)^2 / \chi(-x^2)^6$ in powers of x where $\chi()$ is a Ramanujan theta function.

$$\frac{e^{\frac{5\pi}{12}} 2^{1/4}}{4}$$

1.1007473663070007312430600226509

1,2,7,14,31,58,112,196,347,580,966,1554,2485,3872,5993,9102,13719,20384,30068,
43836,63481,91048,129763,183448,257839,359862,499583,689312,946416,1292388,
1756838,2376598,3201557,4293942,5736736,7633702,10121408,13370634

A225543 G.f.: $\text{Product}_{\{k>0\}} (1 - x^k)^4 * (1 - (-x)^k)^8$.

$$\frac{e^{\frac{\pi}{2}} \pi^3 \sqrt{2}}{16 \Gamma\left(\frac{3}{4}\right)^{12}}$$

1.1498131319415838841502194154532

1,4,-10,-56,29,332,30,-1064,-302,1940,288,-1960,1071,1192,-1938,-736,-2000,-1488,
5014,7288,4170,-10644,-8482,11184,-12647,-15544,15590,9992,25424,4604,-26610,
2472,-28972,3140,26464,-39416,31338,24764,-25248,-16176

A225564 Expansion of $\psi(-x)^2 * f(-x^4)^6$ in powers of x where $\psi()$, $f()$ are Ramanujan theta functions.

$$\frac{e^{\frac{5\pi}{4}} \pi^2 2^{1/4}}{128 \Gamma\left(\frac{3}{4}\right)^8}$$

0.91526604945019930588837179281195

1,-2,1,-2,-4,12,-3,10,-3,-20,-7,-8,29,-10,25,-28,-12,54,20,34,-74,-42,-80,22,53,40,-43,16,
73,-50,114,-38,-20,-68,104,-100,-47,114,-47,-24,-100,-68,-151,50,137,244,-40,326,
-23,-194,-30,50,-100,-160,6,-274

A225701 Expansion of $\chi(q)^5 / \chi(q^5)$ in powers of q where $\chi()$ is a Ramanujan theta function.

$$\frac{\sqrt{5} (5 - \sqrt{5})}{5}$$

1.2360679774997896964091736687313

1,5,10,15,30,55,80,120,190,285,410,585,840,1190,1640,2240,3070,4170,5570,7400,
9830,12960,16920,21990,28520,36805,47180,60225,76720,97350,122880,154610,
194110,242880,302740,376295,466710,577270,711800,875520,1074790

A225849 McKay-Thompson series of class 20C for the Monster group with $a(0) = 3$.

$$\frac{e^{-\pi} (5 - \sqrt{5})^2 (\sqrt{5} + 1)^4}{32}$$

1.1313550680161559367738788271496

1,3,1,-2,2,2,-1,0,-4,2,5,-2,0,-8,2,8,-3,2,-14,6,14,-6,4,-24,12,24,-11,4,-40,16,38,-16,5,-62,
24,60,-24,10,-94,40,91,-38,18,-144,62,136,-57,24,-214,88,201,-82,30,-308,122,288,
-117,48,-440,180,410

A225853 Expansion of $\phi(x) / f(-x^4)$ in powers of x where $\phi()$, $f()$ are Ramanujan theta functions.

$$e^{-\frac{\pi}{6}} 2^{7/8}$$

1.0864386000098680340362099450664

1,2,0,0,3,2,0,0,4,6,0,0,7,8,0,0,13,14,0,0,19,20,0,0,29,34,0,0,43,46,0,0,62,70,0,0,90,96,0,
0,126,138,0,0,174,186,0,0,239,262,0,0,325,346,0,0,435,472,0,0,580,620,0,0,769,826,
0,0,1007,1072,0

A225872 Expansion of $k(q)^3 * k'(q)^2 * (K(q) / (\pi/2))^6 / 64$ in powers of q where $k()$, $k'()$, $K()$ are Jacobi elliptic functions.

$$\frac{e^{\frac{\pi}{2}} \pi^3 \sqrt{2}}{512 \Gamma\left(\frac{3}{4}\right)^{12}}$$

0.035931660373174496379694356732914

0,1,-4,2,8,-13,28,-26,-56,69,-48,134,80,-182,-84,-312,280,204,332,142,-816,91,-196,
780,-224,-526,-244,-1198,2216,767,508,-390,-400,-1167,-1424,466,-2264,1391,1392,
3796,-1480,-11,1768,-2274,1320,-1508,-1984,-8450

A225912 Expansion of $q * (\phi(-q^2) * \psi(-q)^2)^4$ in powers of q where $\phi()$, $\psi()$ are Ramanujan theta functions.

$$\frac{\sqrt{2} \pi^3}{128 \Gamma\left(\frac{3}{4}\right)^{12}}$$

0.029877833343819895404720399301683

0,1,-8,20,0,-74,96,-24,0,157,-432,124,0,478,704,-1480,0,-1198,792,3044,0,-480,-4320,
184,0,2351,3344,-1720,0,-3282,5184,-5728,0,2480,-4752,1776,0,10326,-6688,9560,0,
-8886,-8448,-9188,0,-11618,32832,23664,0,-16231

A225915 Expansion of $(k(q) / 4)^4$ in powers of q where $k()$ is a Jacobi elliptic function.

$$\frac{e^{2\pi}}{1024}$$

0.52294106984840306299125911092681

1,-16,152,-1088,6444,-33184,153152,-646528,2533070,-9311664,32387616,-107299904,
340436664,-1039026144,3061896704,-8739810688,24229115109,-65390485328,
172155210320,-442928464640,1115433685796,-2753362613984,6670224790272,
-15876957230848

A225923 Expansion of $q^{(-1/2)} * k(q) * (1 - k(q)^4) * (K(q) / (\pi/2))^6 / 4$ in powers of q where $k()$, $k'()$, $K()$ are Jacobi elliptic functions.

$$\frac{3 e^{\frac{\pi}{2}} \pi^3 \sqrt{2}}{32 \Gamma\left(\frac{3}{4}\right)^{12}}$$

1.7247196979123758262253291231799

1,20,-74,-24,157,124,478,-1480,-1198,3044,-480,184,2351,-1720,-3282,-5728,2480,
1776,10326,9560,-8886,-9188,-11618,23664,-16231,-23960,11686,-9176,60880,
16876,-18482,-3768,-35372,-15532,3680,-31960,-4886,47020,-2976,44560

A226086 Expansion of $(2 * \eta(q^2)^{24} - \eta(q)^{16} * \eta(q^4)^8)^3 / (\eta(q)^4 * \eta(q^2) * \eta(q^4)^6)^4$ in powers of q .

$$\frac{27 e^{\pi} \pi^7}{1024 \Gamma\left(\frac{3}{4}\right)^{28}}$$

6.2164578986062851838801886476918

1,64,1236,4096,-57450,79104,64232,262144,-66627,-3676800,2464572,5062656,

8032766,4110848,-71008200,16777216,71112402,-4264128,136337060,-235315200,
79390752,157732608,-1186563144,324009984,2079799375,514097024,-2052934200,
263094272

A226132 Expansion of $-c(-q) * c(q^2) / 9$ in powers of q where $c()$ is a cubic AGM theta function.

$$\frac{e^{\pi} \pi \Gamma\left(\frac{11}{12}\right)^9 \Gamma\left(\frac{7}{12}\right)^9}{64 \Gamma\left(\frac{3}{4}\right)^{22}}$$

0.96232823428717717954968405829569

1,-1,3,-1,6,-3,8,-1,9,-6,12,-3,14,-8,18,-1,18,-9,20,-6,24,-12,24,-3,31,-14,27,-8,30,-18,32,
-1,36,-18,48,-9,38,-20,42,-6,42,-24,44,-12,54,-24,48,-3,57,-31,54,-14,54,-27,72,-8,60,
-30,60,-18,62,-32,72

A226139 Expansion of $b(-q) * b(q^2)$ in powers of q where $b()$ is a cubic AGM theta function.

$$\frac{\pi \Gamma\left(\frac{3}{4}\right)^2}{\Gamma\left(\frac{11}{12}\right)^3 \Gamma\left(\frac{7}{12}\right)^3}$$

1.1228212888039713546333813765292

1,3,-3,-15,-3,18,15,24,-3,-69,-18,36,15,42,-24,-90,-3,54,69,60,-18,-120,-36,72,15,93,-42,
-231,-24,90,90,96,-3,-180,-54,144,69,114,-60,-210,-18,126,120,132,-36,-414,-72,144,
15,171,-93,-270,-42,162,231,216

A226192 Expansion of $\phi(x^2) * \psi(-x)$ in powers of x where $\phi()$, $\psi()$ are Ramanujan theta functions.

$$\frac{e^{\frac{\pi}{8}} 2^{3/4} \Gamma\left(\frac{5}{8}\right)^2 (2 + \sqrt{2})^{3/2}}{16 \sqrt{\pi} \Gamma\left(\frac{7}{8}\right)^2}$$

0.96027857380350583505129563922112

1,-1,2,-3,0,-2,1,0,4,-2,1,-2,2,0,2,-1,0,-2,4,-2,0,-3,0,-4,2,0,0,0,3,-2,2,0,2,-4,0,-2,3,0,4,-2,
0,0,2,0,2,-1,2,-4,0,0,2,-2,0,-6,2,-1,2,-2,0,0,4,0,0,-4,0,-2,1,0,4,0,0,-2,2,-4,2,-2,0,-2

A226194 Expansion of $f(-x^1, -x^7) * f(-x^3, -x^5)$ in powers of x where $f(,)$ is

Ramanujan's general theta function.

$$\frac{e^{\frac{5\pi}{8}} 2^{3/4} \Gamma\left(\frac{5}{8}\right)^2 (2 + \sqrt{2}) \sqrt{2 - \sqrt{2}}}{32 \sqrt{\pi} \Gamma\left(\frac{7}{8}\right)^2}$$

0.95670872509031686861918607738194

1,-1,0,-1,1,-1,1,-1,0,0,2,0,1,-1,1,-2,0,0,1,-1,0,-1,1,0,1,-2,0,-2,1,0,1,0,1,-1,1,0,1,0,0,-1,3,
-1,0,-1,0,-2,1,0,1,-1,1,0,1,0,0,-2,0,-1,0,-1,2,-2,0,-1,0,0,2,-1,1,-1,2,0,0,0,0,-1,1,0,2

A226252 Number of ways of writing n as the sum of 7 triangular numbers.

$$\frac{e^{\frac{7\pi}{8}} \pi^{7/4} 2^{5/8}}{32 \Gamma\left(\frac{3}{4}\right)^7}$$

1.3453918341858397740268103791892

1,7,21,42,77,126,175,253,357,434,567,735,833,1057,1302,1400,1708,2037,2191,2597,
3003,3151,3619,4242,4389,4935,5691,5740,6594,7434,7371,8400,9303,9506,10626,
11592,11585,12761,14427,14203,15519,17241,16808,18788,20559,19950,21882,
23898,23786

A226253 Number of ways of writing n as the sum of 9 triangular numbers.

$$\frac{e^{\frac{9\pi}{8}} \pi^{9/4} 2^{3/8}}{64 \Gamma\left(\frac{3}{4}\right)^9}$$

1.4644101375701532097475569941504

1,9,36,93,198,378,633,990,1521,2173,2979,4113,5370,6858,8955,11055,13446,16830,
20031,23724,28836,33381,38520,45729,52203,59121,68922,77461,86283,99747,
110547,121500,138870,152034,166725,188568,204156,221760,248310,268713,
289422,321786,345570,369036

A226254 Number of ways of writing n as the sum of 10 triangular numbers from A000217.

$$\frac{e^{\frac{5\pi}{4}} \pi^{5/2} 2^{3/4}}{128 \Gamma\left(\frac{3}{4}\right)^{10}}$$

1.5278112242882518714842338445199

1,10,45,130,300,612,1105,1830,2925,4420,6341,9000,12325,16290,21645,27932,34980,

44370,54900,66430,81702,98050,115440,138330,162565,187800,220545,254800,
289265,334890,382058,427350,488700,550420,609960,691812,770185,845750,
949365,1049400,1145580,1274580

A226255 Number of ways of writing n as the sum of 11 triangular numbers.

$$\frac{e^{\frac{11\pi}{8}} \pi^{11/4} 2^{1/8}}{128 \Gamma\left(\frac{3}{4}\right)^{11}}$$

1.5939572372356278152819723247565

1,11,55,176,440,957,1848,3245,5412,8580,12892,18888,26895,36916,50160,66935,
86658,111870,142582,177320,221100,272690,329065,399102,480040,566808,672969,
793760,920326,1074040,1248412,1425974,1640595,1882145,2123385,2418339,
2743928,3062895,3453978,3880855

A226289 Expansion of $f(-x) * \phi(x^3)$ in powers of x where $f()$, $\phi()$ are Ramanujan theta functions.

$$\frac{e^{\frac{\pi}{24}} 2^{1/8} \sqrt{3} \Gamma\left(\frac{2}{3}\right) \Gamma\left(\frac{11}{12}\right)^2 \Gamma\left(\frac{7}{12}\right)^3 (1 + \sqrt{3})}{8 \Gamma\left(\frac{3}{4}\right)^7}$$

0.95507291295901583337824517401326

1,-1,-1,2,-2,-1,0,1,2,0,2,0,1,-2,-2,-3,0,2,-2,2,0,0,1,0,-2,2,1,0,-2,0,0,0,2,0,4,-1,0,0,0,-2,-1,
0,-2,-2,0,0,0,-2,2,0,-2,1,-2,4,2,2,0,1,0,0,0,0,-2,0,0,0,0,-2,0,2,1,0,0,-2,2,2,-2,-3,2

A226535 Expansion of $b(-q)$ in powers of q where $b()$ is a cubic AGM theta function.

$$\frac{\pi^{2/3} 3^{1/3} \Gamma\left(\frac{11}{12}\right)^{1/3}}{\Gamma\left(\frac{2}{3}\right)^{1/3} \Gamma\left(\frac{3}{4}\right)^{7/3} (\sqrt{2} (1 + \sqrt{3}))^{1/3}}$$

1.1291470973442343435923033949907

1,3,0,-6,-3,0,0,6,0,-6,0,0,6,6,0,0,-3,0,0,6,0,-12,0,0,0,3,0,-6,-6,0,0,6,0,0,0,0,6,6,0,-12,0,0,
0,6,0,0,0,0,6,9,0,0,-6,0,0,0,0,-12,0,0,0,6,0,-12,-3,0,0,6,0,0,0,0,0,6,0,-6,-6,0,0,6,0

A226622 Expansion of $\phi(x^2) / f(-x)$ in powers of x where $\phi()$, $f()$ are Ramanujan theta functions.

$$\frac{e^{-\frac{\pi}{24}} 2^{3/8} \sqrt{2+\sqrt{2}}}{2}$$

1.0511206774983400373381036768656

1,1,4,5,9,13,21,29,46,62,90,122,171,227,311,408,545,709,933,1198,1555,1980,2536,
3205,4063,5092,6400,7966,9928,12281,15198,18684,22979,28097,34346,41789,
50813,61527,74453,89757,108114,129809,155704,186221,222503

A226635 Expansion of $\psi(x^4) / f(-x)$ in powers of x where $\psi()$, $f()$ are Ramanujan theta functions.

$$\frac{e^{\frac{11\pi}{24}} 2^{3/8} \sqrt{2-\sqrt{2}}}{4}$$

1.0472131220239828893715847506403

1,1,2,3,6,8,13,18,27,37,53,71,100,132,179,235,313,405,531,681,880,1119,1429,1801,
2280,2852,3575,4444,5529,6827,8436,10357,12716,15530,18958,23036,27978,33839,
40896,49254,59265,71083,85180,101781,121494,144659

A226862 Expansion of $\phi(x^3) * f(-x^4)$ in powers of x where $\phi()$, $f()$ are Ramanujan theta functions.

$$\frac{27 \sqrt{3} \Gamma\left(\frac{11}{12}\right)^4 \Gamma\left(\frac{7}{12}\right)^9 \left(\frac{5}{3} + \sqrt{3}\right) \Gamma\left(\frac{2}{3}\right)^5 e^{\frac{\pi}{6}} 2^{5/8}}{512 \pi^2 \Gamma\left(\frac{3}{4}\right)^{15}}$$

1.0001579111177672739556759286040

1,0,0,2,-1,0,0,-2,-1,0,0,-2,2,0,0,0,-2,0,0,0,-1,0,0,2,0,0,0,2,1,0,0,0,2,0,0,-2,0,0,0,0,2,0,0,
0,0,0,0,2,1,0,0,-2,-2,0,0,2,-2,0,0,0,-3,0,0,-2,0,0,0,0,2,0,0,0,-2,0,0,0,2,0,0,-2,0,0

A227033 Expansion of $(\phi(x) / f(-x^4))^2$ in powers of x where $\phi()$, $f()$ are Ramanujan theta functions.

$$2 e^{-\frac{\pi}{3}} 2^{3/4}$$

1.1803488315914020261662019421437

1,4,4,0,6,16,8,0,17,40,28,0,38,96,56,0,84,204,124,0,172,400,232,0,325,760,448,0,594,
1376,784,0,1049,2404,1388,0,1796,4096,2320,0,3005,6808,3864,0,4912,11072,6216,
0,7877,17688,9940,0,12430,27792,15488,0

A227175 Expansion of $(\phi(x) / f(-x^4))^4$ in powers of x where $\phi()$, $f()$ are Ramanujan

theta functions.

$$8 e^{-\frac{2\pi}{3}} \sqrt{2}$$

1.3932233642391879418223721047921

1,8,24,32,28,80,192,192,134,408,864,800,568,1520,3072,2752,1809,4808,9456,8192,
5316,13616,26112,22144,13990,35376,66624,55584,34696,86016,159744,131392,
80724,198256,363720,295776,180068,436816,793344,638976,384940

A227317 Expansion of $\psi(x)^6 * \phi(-x)^2$ in powers of x where $\phi()$, $\psi()$ are Ramanujan theta functions.

$$\frac{e^{\frac{3\pi}{4}} \pi^2 2^{3/4}}{32 \Gamma\left(\frac{3}{4}\right)^8}$$

1.0763020447275137115059405122442

1,2,-5,-10,5,6,10,40,-20,-50,19,-52,-30,50,-25,74,97,50,-25,-140,69,-34,-100,-50,-185,
-6,83,310,-60,-60,410,-128,145,-100,-245,250,-87,-90,-400,-410,-151,362,185,-50,
285,30,150,-240,500,370,-68,222,5,-190

A227398 Expansion of $\chi(x^3) / \chi(x)$ in powers of x where $\chi()$ is a Ramanujan theta function.

$$\frac{e^{-\frac{\pi}{12}} 3^{1/12} \Gamma\left(\frac{2}{3}\right)^{2/3} \Gamma\left(\frac{3}{4}\right)^{2/3} (\sqrt{2} (1 + \sqrt{3}))^{2/3}}{2 \pi^{1/3} \Gamma\left(\frac{11}{12}\right)^{2/3}}$$

0.95857602310480450404074974658115

1,-1,1,-1,1,-2,2,-3,3,-3,4,-5,6,-7,8,-9,10,-12,14,-16,18,-20,23,-26,30,-34,38,-42,47,-53,
60,-67,74,-82,91,-102,114,-126,139,-153,169,-187,207,-228,250,-274,301,-331,364,
-399,436,-476,520,-569,622,-679

A227695 Expansion of $\psi(x)^2 * \phi(-x)^6$ in powers of x where $\phi()$, $\psi()$ are Ramanujan theta functions.

$$\frac{e^{\frac{\pi}{4}} \pi^2 2^{1/4}}{8 \Gamma\left(\frac{3}{4}\right)^8}$$

0.63283571600874628630303301033334

1,-10,37,-50,-30,128,-25,-34,-320,310,410,-370,-87,-410,320,30,500,384,-630,-640,-359,

300,-326,2560,-110,-1098,-1280,-370,1490,-1850,269,1500,1216,640,570,-3328,340,-2010,-1110,1790,768,3200,303,750,-1600,-442

A227696 Expansion of $f(x^3)^3 / f(x)$ in powers of x where $f()$ is a Ramanujan theta function.

$$\frac{e^{\frac{\pi}{3}} 3^{3/4} \Gamma\left(\frac{2}{3}\right) \Gamma\left(\frac{11}{12}\right)^2 \Gamma\left(\frac{7}{12}\right)^3 (1 + \sqrt{3})}{24 \Gamma\left(\frac{3}{4}\right)^7}$$

0.96052780421860884567619784916355

1,-1,2,0,2,-1,2,0,1,-2,2,0,2,0,2,0,3,-2,0,0,2,-1,2,0,2,-2,2,0,0,0,4,0,2,-1,2,0,2,-2,0,0,1,-2,2,0,4,0,2,0,0,-2,2,0,2,0,2,0,3,-2,2,0,2,0,0,0,2,-3,2,0,0,-2,2,0,4,0,2,0,2,0,0,0,2,-2

A228745 Expansion of $(\phi(q)^4 + 7 * \phi(-q)^4) / 8$ in powers of q where $\phi()$ is a Ramanujan theta function.

$$\frac{9 \pi}{16 \Gamma\left(\frac{3}{4}\right)^4}$$

0.78367721044819323329113852143298

1,-6,24,-24,24,-36,96,-48,24,-78,144,-72,96,-84,192,-144,24,-108,312,-120,144,-192,288,-144,96,-186,336,-240,192,-180,576,-192,24,-288,432,-288,312,-228,480,-336,144,-252,768,-264,288,-468,576,-288,96,-342,744

A228746 Expansion of $8 * \phi(q)^4 - 7 * \phi(-q)^4$ in powers of q where $\phi()$ is a Ramanujan theta function.

$$\frac{9 \pi}{2 \Gamma\left(\frac{3}{4}\right)^4}$$

6.2694176835855458663291081714638

1,120,24,480,24,720,96,960,24,1560,144,1440,96,1680,192,2880,24,2160,312,2400,144,3840,288,2880,96,3720,336,4800,192,3600,576,3840,24,5760,432,5760,312,4560,480,6720,144,5040,768,5280,288,9360,576,5760,96,6840

A228831 Expansion of $\psi(x)^2 * \phi(-x^2)^4$ in powers of x where $\phi()$, $\psi()$ are Ramanujan theta functions.

$$\frac{e^{\frac{\pi}{4}} \pi^{3/2} 2^{1/4}}{4 \Gamma\left(\frac{3}{4}\right)^6}$$

1.0722933982551528719218676134212

1,2,-7,-14,18,32,-21,-14,16,-30,-14,-14,-15,66,48,82,-28,-160,66,-32,-95,36,-30,128,-14,
-94,64,18,98,98,105,-92,-112,-96,-206,-64,-28,226,-126,-46,320,32,27,-142,208,-30,
-60,64,-206,322,-16,-28,-48,-224

A228834 Expansion of $\phi(-x^2)^2 * \psi(-x)^4$ in powers of x where $\phi()$, $\psi()$ are Ramanujan theta functions.

$$\frac{e^{\frac{\pi}{2}} \pi^{3/2} 2^{3/4}}{16 \Gamma\left(\frac{3}{4}\right)^6}$$

0.83150090676002262902679716340188

1,-4,2,8,-7,4,-14,-8,18,12,32,-40,-21,-8,-14,32,16,16,-30,56,-14,-28,-14,-16,-15,-72,66,8,
48,52,82,-56,-28,-4,-160,-56,66,84,-32,16,-95,140,36,56,-30,-112,128,24,-14,-28,-94,
-152,64,-156,18,120,98,-80

A228864 Expansion of $1 + q * (\psi(-q^5) / \psi(-q))^2$ in powers of q where $\psi()$ is a Ramanujan theta function.

$$\frac{32 2^{4/5} \Gamma\left(\frac{9}{10}\right)^4 \Gamma\left(\frac{7}{10}\right)^4 (5 + \sqrt{5})^4 \left(\frac{\sqrt{5}}{4} - \frac{1}{4}\right)^4 \left(\frac{\sqrt{5}}{4} + \frac{1}{4}\right)^4}{625 \Gamma\left(\frac{4}{5}\right)^8}$$

1.0472135954999579392818347337461

1,1,2,3,6,11,16,24,38,57,82,117,168,238,328,448,614,834,1114,1480,1966,2592,3384,
4398,5704,7361,9436,12045,15344,19470,24576,30922,38822,48576,60548,75259,
93342,115454,142360,175104,214958,263262,321584,391993,476952

A230057 Expansion of $(3 * \phi(q^3)^4 - \phi(q)^4) / 2$ in powers of q where $\phi()$ is a Ramanujan theta function.

$$\frac{\pi \Gamma\left(\frac{11}{12}\right)^2 \Gamma\left(\frac{7}{12}\right)^2}{2 \Gamma\left(\frac{3}{4}\right)^8}$$

0.80436666384006998038089653503100

1,-4,-12,-4,-12,-24,-12,-32,-12,-4,-72,-48,-12,-56,-96,-24,-12,-72,-12,-80,-72,-32,-144,
-96,-12,-124,-168,-4,-96,-120,-72,-128,-12,-48,-216,-192,-12,-152,-240,-56,-72,-168,
-96,-176,-144,-24,-288,-192,-12,-228

A230278 Expansion of $q^{(-2/3)} * \eta(q^2)^{10} / \eta(q)^4$ in powers of q .

$$\frac{e^{\frac{2\pi}{3}} \pi^{3/2} \sqrt{2}}{16 \Gamma\left(\frac{3}{4}\right)^6}$$

1.1803241340377433770667688471391

1,4,4,0,0,-8,-16,0,-10,-20,16,0,0,40,0,0,39,28,0,0,0,-40,32,0,-70,0,-64,0,0,-80,0,0,49,
-20,-40,0,0,112,80,0,-22,56,64,0,0,88,0,0,110,-140,0,0,0,0,-160,0,-128,52,0,0,0,-280,
0,0,-130,28,156,0,0

A230280 Expansion of $q^{(-1/3)} * \eta(q)^4 * \eta(q^2)^2$ in powers of q .

$$\frac{e^{\frac{\pi}{3}} \pi^{3/2} \sqrt{2}}{8 \Gamma\left(\frac{3}{4}\right)^6}$$

0.82839823504909961478132571950894

1,-4,0,16,-10,-16,0,0,39,0,0,-32,-70,64,0,0,49,40,0,-80,-22,-64,0,0,110,0,0,160,-128,0,0,
0,-130,-156,0,112,182,0,0,0,121,0,0,-160,0,-128,0,0,-320,280,0,0,170,256,0,0,-69,0,0,
-320,38,0,0,0,-190

A230442 Expansion of $q^{(-1/6)} * \eta(q)^2 * \eta(q^2)$ in powers of q .

$$\frac{e^{\frac{\pi}{6}} \pi^{3/4} 2^{3/4}}{4 \Gamma\left(\frac{3}{4}\right)^3}$$

0.91016385066047289965707892503502

1,-2,-2,4,1,2,-2,-4,-1,-4,6,0,0,6,4,-4,-4,2,-6,0,-5,2,0,0,4,2,6,4,-1,-6,2,0,4,-6,-8,-8,8,-2,-6,
8,-4,4,4,4,4,-2,-2,8,-1,4,-4,0,-4,-8,-6,0,0,0,6,-8,-3,-2,6,-4,8,12,-2,-4,4,0,10,4,-4,-2,0,
-8,-4,-2,4,4,-12,2,-4,0,-12,4,-4

A232166 Expansion of $\phi(x) / \psi(x^2)^2$ in powers of x where $\phi()$, $\psi()$ are Ramanujan theta functions.

$$\frac{4 e^{-\frac{\pi}{2}} \sqrt{2} \Gamma\left(\frac{3}{4}\right)}{\pi^{1/4}}$$

1.0823884256333913411976635027866

1,2,-2,-4,5,6,-10,-12,17,24,-30,-40,50,62,-80,-100,127,160,-196,-244,296,360,-442,-532,
649,786,-940,-1132,1347,1600,-1910,-2260,2682,3176,-3734,-4400,5157,6032,-7066,
-8240,9616,11202,-13002,-15096,17469,20192

A232635 Expansion of $\psi(x) * \phi(x^2)^2$ in powers of x where $\phi()$, $\psi()$ are Ramanujan theta functions.

$$-\frac{e^{\frac{\pi}{8}} 2^{1/8} \Gamma\left(\frac{5}{8}\right)^3 (2 + \sqrt{2})^{3/2}}{16 \pi^{3/4} \Gamma\left(\frac{7}{8}\right)^3 (\sqrt{2} - 2)}$$

1.0511023494995222481488311933287

1,1,4,5,4,8,1,4,8,4,13,12,4,8,8,1,12,8,8,12,16,13,4,16,4,12,20,8,5,12,12,12,16,8,8,20,17,
16,16,8,20,24,8,8,16,1,24,16,8,12,20,16,12,28,12,33,20,8,16,12,16,20,24,8,16,32,1,
12,32,8,16,32,8

A232772 Expansion of $(\psi(x)^2 / (\phi(-x) * \phi(x^2)))^2$ in powers of x where $\phi()$, $\psi()$ are Ramanujan theta functions.

$$-\frac{e^{\frac{\pi}{2}} (\sqrt{2} - 2)}{2}$$

1.4089562041402485272331325658120

1,8,30,80,197,472,1046,2160,4306,8360,15712,28656,51127,89552,153926,259904,
432336,709728,1150142,1841200,2915546,4570904,7097622,10921184,16664073,
25228176,37907758,56553936,83806768,123405752,180611558,262799248,
380275604

A233006 Expansion of $\psi(x) / f(-x^6)$ in powers of x where $\psi()$, $f()$ are Ramanujan theta functions.

$$\frac{e^{-\frac{\pi}{8}} 2^{35/72} 3^{1/3} \Gamma\left(\frac{3}{4}\right)^{1/3} \Gamma\left(\frac{5}{6}\right)^{1/6} (\sqrt{2} (1 + \sqrt{3}))^{1/3}}{2 \pi^{1/12} \Gamma\left(\frac{11}{12}\right)^{1/3}}$$

1.0432946310881420627207853443792

1,1,0,1,0,0,2,1,0,1,1,0,3,2,0,3,1,0,5,3,0,5,2,0,8,5,0,8,4,0,12,7,0,12,6,0,19,11,0,19,9,0,27,
15,0,28,14,0,39,22,0,41,20,0,55,31,0,58,29,0,77,43,0,82,41,0,106,58,0,113,57,0,145,
80,0,156

A233458 Expansion of $q^{(-1)} * (\phi(q^2) * \phi(-q) / \psi(-q^2)^2)^2$ in powers of q where $\phi()$, $\psi()$ are Ramanujan theta functions.

$$e^{-\pi} 2^{3/4} (2 + \sqrt{2})^2$$

0.84718354001626925784815807239882

1,-4,12,-32,66,-128,232,-384,639,-1024,1596,-2496,3774,-5632,8328,-12032,17283,
-24576,34520,-48288,66882,-91904,125568,-170112,229244,-307200,409236,
-542912,716412,-941056,1231048,-1602816,2079237,-2686976,3459264,-4439616

A236926 Number of integer solutions to $a^2 + b^2 + c^2 + 3*d^2 = n$.

$$\frac{\sqrt{\pi} \sqrt{3} \Gamma\left(\frac{2}{3}\right) \Gamma\left(\frac{11}{12}\right)^2 \Gamma\left(\frac{7}{12}\right)^3 \sqrt{2} (1 + \sqrt{3})}{8 \Gamma\left(\frac{3}{4}\right)^9}$$

1.2825700880290551291209631735950

1,6,12,10,18,48,40,12,60,78,24,48,70,84,120,32,66,192,84,36,144,180,120,96,136,126,
168,82,84,336,200,60,252,288,96,96,234,228,360,140,120,480,144,84,336,336,240,
192,310,258,252,128,252,624,400,96,408,540,168

A236928 Number of integer solutions to $a^2 + b^2 + c^2 + 2*d^2 = n$.

$$\frac{\Gamma\left(\frac{5}{8}\right)^4 (3 + 2\sqrt{2}) \sqrt{2 + \sqrt{2}}}{8 \pi \Gamma\left(\frac{7}{8}\right)^4}$$

1.2871525952508907616003984809459

1,6,14,20,30,40,36,48,62,42,72,100,68,120,112,48,126,108,98,180,136,160,180,144,132,
126,216,200,240,280,112,192,254,120,252,320,210,360,324,144,264,252,288,420,
340,280,336,288,260,342,294,360,408,520,360,240,496

A236929 Number of integer solutions to $a^2 + b^2 + 5*c^2 + 5*d^2 = n$.

$$\frac{2^{1/5} \sqrt{5} \Gamma\left(\frac{3}{5}\right)^4 \Gamma\left(\frac{7}{10}\right)^2 (5 + \sqrt{5})^2 (\sqrt{5} + 1)^4}{12800 \pi \Gamma\left(\frac{3}{4}\right)^4 \Gamma\left(\frac{9}{10}\right)^2}$$

1.1803413105336728775627992204902

1,4,4,0,4,12,16,16,4,20,44,16,16,24,32,64,4,8,52,16,44,32,48,48,16,84,56,64,32,56,176,
32,4,64,72,112,52,56,80,64,44,72,128,32,48,188,96,48,16,68,244,128,56,56,160,176,
32,128,120,112,176,88,128,144,4,200

A236930 Number of integer solutions to $a^2 + b^2 + c^2 + 5d^2 = n$.

$$\frac{\pi 5^{3/4} \sqrt{2} (5 - \sqrt{5})^{3/2} (\sqrt{5} + 1)^3}{800 \Gamma\left(\frac{3}{4}\right)^4}$$

1.2823635023681291836461884218409

1,6,12,8,6,26,36,24,28,42,72,72,8,48,108,48,54,64,84,120,26,72,144,88,84,126,216,80,
24,180,156,192,92,96,288,144,42,144,240,144,168,252,144,168,72,182,396,184,72,
258,372,192,48,208,360,312,252,160,360,360,48

A239052 Sum of divisors of $4^n - 2$.

$$\frac{3 e^{\frac{\pi}{2}} \pi \sqrt{2}}{8 \Gamma\left(\frac{3}{4}\right)^4}$$

3.5542595028463363358011212872339

3,12,18,24,39,36,42,72,54,60,96,72,93,120,90,96,144,144,114,168,126,132,234,144,171,
216,162,216,240,180,186,312,252,204,288,216,222,372,288,240,363,252,324,360,
270,336,384,360,294,468,306,312,576

A239053 Sum of divisors of $4^n - 1$.

$$\frac{e^{\frac{3\pi}{4}} \pi 2^{1/4}}{4 \Gamma\left(\frac{3}{4}\right)^4}$$

4.3701310811173258205034246130682

4,8,12,24,20,24,40,32,48,56,44,48,72,72,60,104,68,72,124,80,84,120,112,120,156,104,
108,152,144,144,168,128,132,240,140,168,228,152,192,216,164,168,260,248,180,
248,216,192,336,200,240,312,212,264,296

A239917 Theta series of 16-dimensional lattice OBW16, an overlattice of the Barnes-Wall lattice BW16.

$$\frac{\pi^4}{2 \Gamma\left(\frac{11}{12}\right)^8 \Gamma\left(\frac{7}{12}\right)^8}$$

1.0596227992532788924113583672724

1,0,0,512,4320,18432,61440,193536,522720,1126400,2211840,4584960,8960640,
14764032,23224320,40221696,67154400,96546816,135168000,210332160,
319809600,423976960,550195200,801119232,1147643520,1436147712,1771683840,
2462397440,3371915520

A240948 Expansion of $\chi(x^5)^6 + x * \chi(x)^6$ in powers of x where $\chi()$ is a Ramanujan theta function.

$$\frac{e^{-\frac{5\pi}{4}} 2^{7/10} \Gamma\left(\frac{3}{5}\right)^4 \Gamma\left(\frac{7}{10}\right)^2 (5 + \sqrt{5})^2 (\sqrt{5} + 1)^4}{128 \pi^2 \Gamma\left(\frac{9}{10}\right)^2}$$

1.0557290446014827117309954829179

1,1,6,15,26,57,102,172,276,453,743,1128,1698,2539,3780,5531,7882,11238,15918,
22259,30861,42438,58110,78909,106392,142872,190698,253179,334266,439581,
575956,750613,974316,1260336,1624702,2086806,2670162,3406695,4333590

A243763 Expansion of $q * \phi(q)^3 * \psi(q^2)^4$ in powers of q where $\phi()$, $\psi()$ are Ramanujan theta functions.

$$\frac{e^{\pi} \pi^{7/4}}{32 \Gamma\left(\frac{3}{4}\right)^7}$$

1.2919689738285129686167678008899

1,6,16,32,60,92,128,192,253,316,432,512,604,792,896,1024,1272,1410,1584,1920,2104,
2236,2688,2944,3101,3732,3904,4096,4884,5080,5376,6144,6424,6776,7776,8096,
8188,9492,9856,10112,11664,11704,11952,13824,14100,14360

A244276 Expansion of $q^{(-1/4)} * \eta(q)^8 * \eta(q^4)^2 / \eta(q^2)^5$ in powers of q .

$$\frac{e^{\frac{\pi}{4}} \pi^{5/4} 2^{3/4}}{8 \Gamma\left(\frac{3}{4}\right)^5}$$

0.69790283365553681157763903288128

1,-8,25,-40,48,-80,121,-120,144,-200,192,-248,337,-280,336,-440,384,-480,528,-480,

673,-720,624,-720,816,-760,864,-1080,864,-1000,1321,-1008,1200,-1360,1152,-1440,
1536,-1400,1488,-1720,1536,-1760,2185,-1560,1872

A245643 Expansion of $\eta(q)^6 * \eta(q^2) / \eta(q^4)^2$ in powers of q .

$$\frac{\pi^{5/4}}{2 \Gamma\left(\frac{3}{4}\right)^5}$$

0.75681262416484859602734512819595

1,-6,8,16,-38,-16,48,64,-56,-150,112,112,-112,-80,160,192,-294,-288,248,304,-272,-160,
368,320,-336,-726,400,448,-448,-240,544,640,-568,-864,736,608,-950,-400,656,832,
-784,-1152,864,1008,-784,-496,1184,896,-1136

A245668 Expansion of $(\chi(q^3) * \psi(-q))^3$ in powers of q where $\chi()$, $\psi()$ are Ramanujan theta functions.

$$\frac{\Gamma\left(\frac{2}{3}\right)^2 \sqrt{2} 3^{1/4} (1 + \sqrt{3})^2}{16 \Gamma\left(\frac{3}{4}\right) \pi^{1/4} \Gamma\left(\frac{11}{12}\right)^2}$$

0.87587029657009172002209931746200

1,-3,3,-1,-3,6,-3,0,3,3,-12,6,-1,-12,12,0,-3,12,9,-12,6,-6,-12,0,-3,-15,18,5,0,18,-6,0,3,-6,
-24,12,3,-12,18,0,-12,24,-6,-12,6,18,-24,0,-1,-27,21,-6,-12,18,15,0,12,-6,-12,18,0,-36,
24,0,-3,24,-12

A245669 Expansion of $q * f(q, q^5)^3$ in powers of q where $f()$ is Ramanujan's two-variable theta function.

$$\frac{e^\pi \pi^{9/4} 3^{3/4} (\sqrt{3} - 1)^3}{27 \Gamma\left(\frac{2}{3}\right)^3 \Gamma\left(\frac{7}{12}\right)^3}$$

1.1353252745677241741796270063122

1,3,3,1,0,3,6,3,3,6,6,3,0,6,6,1,6,9,6,0,0,12,12,3,7,6,9,6,0,12,6,3,6,6,12,3,0,12,12,6,6,12,
18,6,0,12,12,3,7,15,12,0,0,9,12,6,12,18,6,6,0,18,18,1,12,12,18,6,0,12,12,9,12,18,15,
6,0,18

A246584 Number of overcubic partitions of n .

$$\frac{2^{3/8} \Gamma\left(\frac{3}{4}\right)^2}{\sqrt{\pi}}$$

1.0986994395787319278665333225609

1,2,6,12,26,48,92,160,282,470,784,1260,2020,3152,4896,7456,11290,16836,24962,
36556,53232,76736,110012,156384,221156,310482,433776,602200,832224,1143696,
1565088,2131072,2890266,3902344,5249356,7032576,9389022,12488368

A246608 Expansion of $\phi(-q) * \phi(-q^4)^4$ in powers of q where $\phi()$ is a Ramanujan theta function.

$$-\frac{2^{3/4} \Gamma\left(\frac{5}{8}\right)^5 \sqrt{2+\sqrt{2}} \left(\frac{3}{2} + \sqrt{2}\right)}{16 \pi^{5/4} \Gamma\left(\frac{7}{8}\right)^5 (\sqrt{2}-2)}$$

0.91355365071697472357619711266256

1,-2,0,0,-6,16,0,0,8,-50,0,0,16,80,0,0,-38,-96,0,0,-16,160,0,0,48,-242,0,0,64,240,0,0,-56,
-288,0,0,-150,400,0,0,112,-384,0,0,112,496,0,0,-112,-674,0,0,-80,560,0,0,160,-672,0,
0,192,880,0,0,-294

A246631 Number of integer solutions to $x^2 + 2y^2 + 2z^2 = n$.

$$-\frac{2^{3/4} \Gamma\left(\frac{5}{8}\right)^3 (2+\sqrt{2})^{3/2}}{16 \pi^{3/4} \Gamma\left(\frac{7}{8}\right)^3 (\sqrt{2}-2)}$$

1.0945653855135933096233694935296

1,2,4,8,6,8,8,0,12,10,8,24,8,8,16,0,6,16,12,24,24,16,8,0,24,10,24,32,0,24,16,0,12,16,16,
48,30,8,24,0,24,32,16,24,24,24,16,0,8,18,28,48,24,24,32,0,48,16,8,72,0,24,32,0,6,32,
32,24,48,32,16,0

A246712 Expansion of $\chi(x^2) / \phi(x)$ in powers of x where $\phi()$, $\chi()$ are Ramanujan theta functions.

$$\frac{e^{-\frac{\pi}{12}} 2^{7/16} \Gamma\left(\frac{7}{8}\right) \pi^{1/4} (2-\sqrt{2})^{1/4}}{\Gamma\left(\frac{5}{8}\right)}$$

0.92216066616775608296091113721601

1,-2,5,-10,18,-32,55,-90,145,-228,351,-532,795,-1170,1703,-2452,3494,-4934,6910,
-9598,13238,-18134,24680,-33390,44921,-60108,80029,-106044,139875,-183706,
240284,-313046,406319,-525490,677269,-870010,1114061,-1422210

A246752 Expansion of $\phi(-x) * \chi(x) * \psi(-x^3)$ in powers of x where $\phi()$, $\psi()$, $\chi()$ are Ramanujan theta functions.

$$\frac{e^{\frac{\pi}{3}} \pi 2^{1/4} \sqrt{3} \Gamma\left(\frac{11}{12}\right) (\sqrt{3} - 1)}{6 \Gamma\left(\frac{2}{3}\right) \Gamma\left(\frac{3}{4}\right)^3}$$

0.95305861004894765776518114212225

1,-1,-2,0,2,3,-2,0,1,-2,-2,0,2,0,-2,0,3,-2,0,0,2,3,-2,0,2,-2,-2,0,0,0,-4,0,2,-1,-2,0,2,6,0,0,1,
-2,-2,0,4,0,-2,0,0,-2,-2,0,2,0,-2,0,3,-2,-2,0,2,0,0,0,2,-3,-2,0,0,6,-2,0,4,0,-2,0,2,0

A246811 Expansion of $\phi(x)^2 * \psi(x^4)$ in powers of x where $\phi()$, $\psi()$ are Ramanujan theta functions.

$$\frac{e^{\frac{\pi}{2}} 2^{3/4} \Gamma\left(\frac{5}{8}\right)^3 (1 + \sqrt{2})}{16 \pi^{3/4} \Gamma\left(\frac{7}{8}\right)^3}$$

1.1803447152678619780355260326874

1,4,4,0,5,12,4,0,8,12,8,0,5,16,12,0,8,24,4,0,16,12,12,0,9,24,12,0,8,36,12,0,16,12,16,0,8,
28,16,0,17,36,8,0,24,24,8,0,8,36,28,0,16,36,12,0,16,24,20,0,13,24,24,0,24,60,8,0,16,
36,16,0,16,28

A246814 Expansion of $\phi(-q) * \phi(-q^4)^2$ in powers of q where $\phi()$ is a Ramanujan theta function.

$$\frac{2^{3/8} \Gamma\left(\frac{5}{8}\right)^3 (2 + \sqrt{2})^2}{16 \pi^{3/4} \Gamma\left(\frac{7}{8}\right)^3}$$

0.91356639434766203645324653132156

1,-2,0,0,-2,8,0,0,-4,-10,0,0,8,8,0,0,6,-16,0,0,-8,16,0,0,-8,-10,0,0,0,24,0,0,12,-16,0,0,-10,
8,0,0,-8,-32,0,0,24,24,0,0,8,-18,0,0,-8,24,0,0,-16,-16,0,0,0,24,0,0,6,-32,0,0,-16,32,0,
0,-12

A246815 Expansion of $\phi(-x) * \psi(-x^2)^2$ in powers of x where $\phi()$, $\psi()$ are Ramanujan theta functions.

$$\frac{e^{\frac{\pi}{2}} 2^{3/8} \Gamma\left(\frac{5}{8}\right)^3 (1 + \sqrt{2})}{16 \pi^{3/4} \Gamma\left(\frac{7}{8}\right)^3}$$

0.91017019879957515621254411328525

1,-2,-2,4,3,-2,-6,4,4,-6,-4,4,7,-8,-2,8,8,-4,-10,4,4,-10,-10,8,9,-4,-6,12,8,-6,-10,12,4,-14,
-8,4,16,-10,-8,8,9,-10,-12,12,8,-12,-12,4,20,-10,-6,20,8,-6,-10,12,8,-20,-18,8,11,-12,
-12,16,8,-6,-20

A246816 Expansion of $\phi(q) * \phi(-q^2) * \phi(-q^4)$ in powers of q where $\phi()$ is a Ramanujan theta function.

$$\frac{2^{5/16} \Gamma\left(\frac{5}{8}\right)^3 (2 + \sqrt{2})^{3/2}}{8 \pi^{3/4} \Gamma\left(\frac{7}{8}\right)^3 (2 - \sqrt{2})^{1/4}}$$

1.0823695524173598315644559258139

1,2,-2,-4,0,-4,0,8,-2,6,8,-4,0,-12,0,8,-4,8,-10,-12,0,-8,0,8,8,14,8,-16,0,-4,0,16,6,16,-16,
-8,0,-20,0,8,-8,8,16,-20,0,-20,0,16,-8,18,-10,-8,0,-12,0,24,0,16,24,-12,0,-20,0,24,12,
8,-16,-28,0

A246832 Expansion of $\psi(x) * \psi(x^2) * \phi(x^2)$ in powers of x where $\phi()$, $\psi()$ are Ramanujan theta functions.

$$\frac{e^{\frac{3\pi}{8}} 2^{7/8} \Gamma\left(\frac{5}{8}\right)^3 (2 + \sqrt{2})^2}{64 \pi^{3/4} \Gamma\left(\frac{7}{8}\right)^3}$$

1.0491467866795106586101607325935

1,1,3,4,2,5,2,3,7,5,5,6,5,3,10,6,3,7,7,4,11,9,3,14,8,8,5,4,7,10,13,7,8,10,7,15,8,4,17,10,8,
11,10,5,16,11,4,11,15,8,14,10,7,22,8,9,14,8,13,21,12,5,13,15,6,21,15,9,13,8,11,9,12,
15,20,21

A246833 Expansion of $\psi(-x)^2 * \psi(x^4)$ in powers of x where $\psi()$ is a Ramanujan theta function.

$$\frac{e^{\frac{3\pi}{4}} 2^{1/4} \Gamma\left(\frac{5}{8}\right)^3 (1 + \sqrt{2})}{32 \pi^{3/4} \Gamma\left(\frac{7}{8}\right)^3}$$

0.91528839273995931012055702847822

1,-2,1,-2,3,-2,4,-4,2,-2,5,-4,2,-6,3,-6,7,-2,5,-4,5,-6,6,-2,5,-10,3,-6,10,-4,6,-8,3,-8,7,-6,7,
-6,4,-6,11,-6,9,-10,3,-6,14,-4,8,-10,8,-10,5,-6,4,-16,7,-4,10,-4,13,-14,7,-8,8,-6,10,-12,
7,-12

A246835 Expansion of $\psi(-x)^2 * \phi(x^2)$ in powers of x where $\phi()$, $\psi()$ are Ramanujan theta functions.

$$\frac{e^{\frac{\pi}{4}} 2^{1/4} \Gamma\left(\frac{5}{8}\right)^3 (2 + \sqrt{2})^2}{32 \pi^{3/4} \Gamma\left(\frac{7}{8}\right)^3}$$

0.91870368624082194984867305749531

1,-2,3,-6,4,-4,7,-2,8,-10,4,-10,9,-6,8,-10,4,-8,16,-8,9,-12,8,-12,20,-6,8,-10,8,-18,11,-12,
8,-20,12,-8,20,-6,20,-26,8,-8,15,-10,16,-18,12,-16,20,-10,16,-16,8,-24,24,-8,21,-26,8,
-20,20,-14,8,-28

A246836 Expansion of $\phi(x) * \psi(-x^2)^2$ in powers of x where $\phi()$, $\psi()$ are Ramanujan theta functions.

$$\frac{e^{\frac{\pi}{2}} 2^{5/8} \Gamma\left(\frac{5}{8}\right)^3 (1 + \sqrt{2})}{16 \pi^{3/4} \Gamma\left(\frac{7}{8}\right)^3}$$

1.0823808762758958685804077673858

1,2,-2,-4,3,2,-6,-4,4,6,-4,-4,7,8,-2,-8,8,4,-10,-4,4,10,-10,-8,9,4,-6,-12,8,6,-10,-12,4,14,
-8,-4,16,10,-8,-8,9,10,-12,-12,8,12,-12,-4,20,10,-6,-20,8,6,-10,-12,8,20,-18,-8,11,12,
-12,-16,8,6,-20

A246837 Expansion of $\phi(x) * \psi(x) * \psi(x^4)$ in powers of x where $\phi()$, $\psi()$ are Ramanujan theta functions.

$$\frac{e^{\frac{5\pi}{8}} 2^{1/8} \Gamma\left(\frac{5}{8}\right)^3 (1 + \sqrt{2})}{16 \pi^{3/4} \Gamma\left(\frac{7}{8}\right)^3}$$

1.1334755509879831212395152782231

1,3,2,1,5,5,3,5,4,4,6,6,3,5,9,6,10,4,3,13,4,5,9,8,5,8,12,4,13,10,7,14,5,5,11,8,9,12,6,7,15,
15,6,13,12,6,13,6,7,21,17,6,13,8,10,12,14,9,8,15,6,22,8,9,22,14,10,11,15,11,22,16,6,
8,14,11

A246926 Expansion of $\phi(x)^2 * \chi(x) * \psi(-x^3)$ in powers of x where $\phi()$, $\psi()$, $\chi()$ are Ramanujan theta functions.

$$\frac{e^{\frac{\pi}{3}} \pi^{5/4} \sqrt{3} \Gamma\left(\frac{11}{12}\right) \sqrt{2} (\sqrt{3} - 1)}{6 \Gamma\left(\frac{2}{3}\right) \Gamma\left(\frac{3}{4}\right)^4}$$

1.2313479190791119196232684085974

1,5,8,4,4,13,12,4,5,16,24,8,4,20,12,8,9,20,32,4,12,29,12,8,8,36,40,8,8,20,24,16,8,25,40,
12,12,32,24,12,13,48,40,8,8,40,36,8,16,20,56,16,12,52,12,20,13,36,56,16,20,40,24,8,
8,45,72,12,16,52

A246927 Expansion of $\psi(-q) * \phi(q^3)^2 * \chi(q^3)$ in powers of q where $\phi()$, $\psi()$, $\chi()$ are Ramanujan theta functions.

$$\frac{3^{7/12} \sqrt{2} \Gamma\left(\frac{2}{3}\right)^{8/3} \Gamma\left(\frac{11}{12}\right)^{4/3} \Gamma\left(\frac{7}{12}\right)^4 (7 + 4\sqrt{3})}{8 \pi^{7/12} \Gamma\left(\frac{3}{4}\right)^{25/3} (\sqrt{2} (1 + \sqrt{3}))^{4/3}}$$

0.95709146689392245662861933645969

1,-1,0,4,-5,0,4,-8,0,2,-4,0,12,-4,0,16,-13,0,0,-12,0,8,-4,0,20,-5,0,4,-16,0,8,-24,0,8,-8,0,
10,-4,0,32,-20,0,8,-12,0,0,-8,0,28,-9,0,24,-20,0,4,-32,0,8,-4,0,32,-12,0,16,-29,0,16,
-12,0,16,-8

A246928 Number of integer solutions to $x^2 + 3y^2 + 3z^2 = n$.

$$\frac{\Gamma\left(\frac{2}{3}\right)^2 \Gamma\left(\frac{7}{12}\right)^2 (2 + \sqrt{3})}{4 \pi^{1/4} \Gamma\left(\frac{3}{4}\right)^5}$$

1.0867855385750991929767545316075

1,2,0,4,10,0,4,16,0,2,8,0,12,8,0,16,26,0,0,24,0,8,8,0,20,10,0,4,32,0,8,48,0,8,16,0,10,8,0,
32,40,0,8,24,0,0,16,0,28,18,0,24,40,0,4,64,0,8,8,0,32,24,0,16,58,0,16,24,0,16,16,0,0,
16,0,28

A246950 Expansion of $\phi(-q) * \phi(-q^4)$ in powers of q where $\phi()$ is a Ramanujan theta function.

$$\frac{2^{15/16} \Gamma\left(\frac{5}{8}\right)^2 (2 + \sqrt{2})}{8 \sqrt{\pi} \Gamma\left(\frac{7}{8}\right)^2 (2 - \sqrt{2})^{1/4}}$$

0.91357276622966833993580677218275

1,-2,0,0,0,4,0,0,-4,-2,0,0,0,4,0,0,4,-4,0,0,0,0,0,0,-6,0,0,0,4,0,0,4,0,0,0,0,4,0,0,-8,-4,0,
0,0,4,0,0,0,-2,0,0,0,4,0,0,0,0,0,0,0,4,0,0,4,-8,0,0,0,0,0,0,-4,-4,0,0,0,0,0,0,8,-2,0

A246953 Expansion of $\phi(-x) * \psi(x^2)^2$ in powers of x where $\phi()$, $\psi()$ are Ramanujan theta functions.

$$\frac{e^{\frac{\pi}{2}} \pi^{3/4} 2^{1/4}}{8 \Gamma\left(\frac{3}{4}\right)^3}$$

0.91699444948354937854015727795865

1,-2,2,-4,3,-2,6,-4,4,-6,4,-4,7,-8,2,-8,8,-4,10,-4,4,-10,10,-8,9,-4,6,-12,8,-6,10,-12,4,-14,
8,-4,16,-10,8,-8,9,-10,12,-12,8,-12,12,-4,20,-10,6,-20,8,-6,10,-12,8,-20,18,-8,11,-12,
12,-16,8,-6,20

A246954 Expansion of $\phi(-x) * \psi(-x)^2$ in powers of x where $\phi()$, $\psi()$ are Ramanujan theta functions.

$$\frac{e^{\frac{\pi}{4}} \pi^{3/4} 2^{1/4}}{4 \Gamma\left(\frac{3}{4}\right)^3}$$

0.83618546493867983680649969497328

1,-4,5,-4,8,-8,5,-12,8,-4,16,-12,9,-12,8,-12,16,-16,8,-16,17,-8,24,-8,8,-28,16,-12,16,-20,
13,-24,24,-8,16,-16,16,-28,24,-12,32,-16,13,-28,8,-20,32,-32,8,-20,24,-16,40,-16,16,
-32,25,-20,24,-24,24,-28

A246962 Expansion of $\psi(-x^3) * \phi(-x^2)$ in powers of x where $\phi()$, $\psi()$ are Ramanujan theta functions.

$$\frac{e^{\frac{3\pi}{8}} \pi^{1/8} \sqrt{3} \Gamma\left(\frac{11}{12}\right) (\sqrt{3} - 1)}{6 \Gamma\left(\frac{2}{3}\right) \Gamma\left(\frac{3}{4}\right)^3}$$

0.99618471644626636068602743049467

1,0,-2,-1,0,2,0,0,2,-1,0,0,0,0,0,0,0,-2,-1,0,-2,2,0,0,0,0,2,2,0,0,1,0,0,0,0,-2,-2,0,2,0,0,-2,

0,0,0,-1,0,2,-2,0,0,0,0,0,0,0,0,0,2,0,0,2,1,0,2,0,0,-2,0,0,-2,2,0,0,-2,0,-2,0,0,-2

A254346 Expansion of $f(x, x^5) * f(-x^6) / f(x)^2$ in powers of x where $f()$ is a Ramanujan theta function.

$$\frac{e^{\frac{\pi}{2}} 2^{1/3} 3^{2/3} \Gamma\left(\frac{2}{3}\right)^{4/3} \Gamma\left(\frac{11}{12}\right)^{11/3} \Gamma\left(\frac{7}{12}\right)^5 (11\sqrt{3} - 19) (1 + \sqrt{3})^5}{128 \Gamma\left(\frac{3}{4}\right)^{26/3} \pi^{2/3}}$$

0.96201768430903943016481336582367

1,-1,3,-5,10,-15,26,-39,63,-92,140,-201,295,-415,591,-818,1140,-1554,2126,-2861,3855,
-5126,6816,-8970,11793,-15372,20007,-25857,33356,-42771,54734,-69683,88530,
-111968,141312,-177642,222842,-278557,347484,-432095,536230

A254525 Expansion of $f(-x^2)^2 * f(-x, x^2) / f(x^3)^3$ in powers of x where $f(),$ is Ramanujan's general theta function.

$$\frac{3 e^{-\frac{\pi}{6}} \Gamma\left(\frac{11}{12}\right) \Gamma\left(\frac{7}{12}\right)}{2 \Gamma\left(\frac{3}{4}\right)^2}$$

0.95483841728478967251951496980722

1,-1,-1,-1,0,3,4,-1,-6,-5,1,10,11,-4,-19,-17,4,31,31,-9,-50,-46,11,79,77,-21,-122,-112,28,
183,173,-46,-273,-249,62,396,370,-98,-573,-521,130,815,751,-193,-1149,-1041,261,
1599,1461,-373,-2214,-1998,498,3031

A255252 Expansion of $\psi(x) * \psi(-x)^2$ in powers of x where $\psi()$ is a Ramanujan theta function.

$$\frac{e^{\frac{3\pi}{8}} \pi^{3/4} 2^{7/8}}{8 \Gamma\left(\frac{3}{4}\right)^3}$$

0.95491212971857475801647460553086

1,-1,-1,0,-2,3,2,1,-1,-1,1,-2,1,-3,-2,-2,3,1,-1,4,3,-1,-1,2,-4,4,1,0,-1,-2,-3,-3,-4,2,3,-3,0,0,
5,2,0,-3,2,-1,4,1,0,1,3,0,-2,2,-1,-2,-4,-5,2,0,-7,3,-4,3,1,5,2,-5,-1,-1,-3,4,-1,3,4,1,4

A255257 Expansion of $\psi(x) * \phi(-x^2)^2$ in powers of x where $\phi(), \psi()$ are Ramanujan theta functions.

$$\frac{e^{\frac{\pi}{8}} \pi^{3/4} 2^{1/8}}{2 \Gamma\left(\frac{3}{4}\right)^3}$$

1.0355160057938036874146350443266

1,1,-4,-3,4,0,1,4,0,4,-3,-4,-4,-8,8,1,-4,0,0,4,0,5,4,8,-4,-4,4,-8,-3,-4,4,-4,0,0,-8,4,1,0,-8,0,
4,8,8,8,0,1,0,-8,8,-4,-4,-8,12,4,-12,1,-4,0,0,-4,-8,4,-8,0,0,-8,1,12,8,8,0,-8,8,0,8,4,0

A255317 Expansion of $\psi(-x^3)^2 / \chi(-x)$ in powers of x where $\psi()$, $\chi()$ are Ramanujan theta functions.

$$-\frac{e^{\frac{19\pi}{24}} \pi^{3/2} 2^{3/8} \Gamma\left(\frac{11}{12}\right)^2 (-2 + \sqrt{3})}{6 \Gamma\left(\frac{2}{3}\right)^2 \Gamma\left(\frac{3}{4}\right)^4}$$

1.0450815187846361875611915482320

1,1,1,0,0,1,1,2,1,0,0,1,1,1,0,1,0,0,2,1,1,1,1,0,1,1,0,1,0,1,0,1,1,0,1,1,1,1,0,2,2,0,1,1,0,
1,0,1,0,0,2,0,1,0,0,0,2,2,0,1,1,2,1,0,1,0,1,0,1,1,1,1,0,0,2,2,1,0,0,0,0,1,1,0,0,1

A255318 Expansion of $\psi(x^3) * f(x^2, x^4)$ in powers of x where $\psi()$, $f()$ are Ramanujan theta functions.

$$\frac{e^{\frac{11\pi}{24}} \sqrt{\pi} 2^{3/8} \Gamma\left(\frac{11}{12}\right)^3 \Gamma\left(\frac{7}{12}\right)^3}{8 \Gamma\left(\frac{3}{4}\right)^8}$$

1.0019517805753381318689637401750

1,0,1,1,1,1,0,1,0,1,1,1,0,2,1,0,0,1,1,1,1,0,1,1,1,0,0,1,1,0,2,0,2,2,1,0,0,0,0,1,1,0,1,0,2,1,
0,2,1,1,0,0,1,1,1,2,0,0,0,1,1,1,1,1,0,1,0,1,0,1,2,0,0,2,1,1,0,1,0,1,1,0,1,1,1,0,1

A256552 Expansion of the unique weight $11/2$ $\Gamma_1(4)$ cusp form in powers of q .

$$\frac{e^{\pi} \pi^{11/4}}{64 \Gamma\left(\frac{3}{4}\right)^{11}}$$

0.89998812568492783412128151216339

1,-2,-8,16,20,-36,0,-32,-75,220,104,-128,-44,-392,0,256,232,474,-536,320,168,-1124,0,
-576,245,852,1248,0,-1668,2040,0,-512,-1368,-2632,-560,-1200,4756,1428,0,3520,
656,-3528,-3224,1664,-4740,2168,0,-2048,1449

A257651 Expansion of $\chi(x)^2 * f(-x^6)^3$ in powers of x where $\chi()$, $f()$ are Ramanujan theta functions.

$$\frac{e^{\frac{2\pi}{3}} \pi^{5/4} \sqrt{3} \Gamma\left(\frac{11}{12}\right)^4 \Gamma\left(\frac{7}{12}\right)^3 \sqrt{2} (\sqrt{3} - 1)}{24 \Gamma\left(\frac{2}{3}\right) \Gamma\left(\frac{3}{4}\right)^{10}}$$

1.0884712435717018991198261467082

1,2,1,2,4,4,2,0,6,6,1,4,6,8,2,0,7,6,4,6,8,8,4,0,10,8,2,6,10,12,0,0,9,14,6,6,12,8,6,0,10,12,
1,10,14,8,4,0,16,14,6,8,8,16,8,0,12,14,2,10,12,16,0,0,20,10,7,8,20,20,6,0,10,16,4,10,
20,12

A257653 Expansion of $f(-x^2)^3 * \phi(x^3) / f(-x^6)$ in powers of x where $\phi()$, $f()$ are Ramanujan theta functions.

$$\frac{\pi^{1/12} 3^{2/3} \Gamma\left(\frac{2}{3}\right)^{4/3} \Gamma\left(\frac{11}{12}\right)^{2/3} \Gamma\left(\frac{7}{12}\right)^2 (2 + \sqrt{3})}{4 \Gamma\left(\frac{3}{4}\right)^{17/3} (\sqrt{2} (1 + \sqrt{3}))^{2/3}}$$

0.99455820567394033256078848251040

1,0,-3,2,0,-6,6,0,-3,12,0,-6,2,0,-12,0,0,-12,18,0,-6,12,0,0,6,0,-18,14,0,-18,12,0,-3,12,0,
-12,12,0,-18,0,0,-24,12,0,-6,36,0,0,2,0,-21,12,0,-18,42,0,-12,12,0,-18,0,0,-24,0,0,-24,
24,0,-12,24,0

A258096 Expansion of $\psi(x^4) * \phi(-x^4)^4 / \phi(-x)$ in powers of x where $\phi()$, $\psi()$ are Ramanujan theta function.

$$\frac{e^{\frac{\pi}{2}} \Gamma\left(\frac{5}{8}\right)^4 (3 + 2\sqrt{2}) \sqrt{2} \sqrt{2 + \sqrt{2}}}{64 \pi \Gamma\left(\frac{7}{8}\right)^4}$$

1.0945692026378238978275357235200

1,2,4,8,7,10,12,8,18,18,16,24,21,20,28,32,20,32,36,24,42,42,28,48,57,36,52,40,36,58,60,
56,48,66,48,72,74,42,80,80,61,82,72,56,90,96,64,72,98,70,100,104,64,106,108,72,
114,96,84,144,111,84,104,128

A258228 Expansion of $f(q) * f(-q^2) * \chi(q^3)$ in powers of q where $\chi()$, $f()$ are Ramanujan theta functions.

$$\frac{\pi^{1/6} 3^{1/3} \Gamma\left(\frac{2}{3}\right)^{2/3} \Gamma\left(\frac{11}{12}\right)^{1/3} \Gamma\left(\frac{7}{12}\right) \sqrt{2} (1 + \sqrt{3})}{4 \Gamma\left(\frac{3}{4}\right)^{10/3} (\sqrt{2} (1 + \sqrt{3}))^{1/3}}$$

1.0394819173136268314538138834198

1,1,-2,0,1,-4,0,0,-2,4,2,0,0,2,0,0,1,-4,4,0,-4,0,0,0,0,3,-4,0,0,-4,0,0,-2,0,2,0,4,2,0,0,2,-4,
0,0,0,8,0,0,0,1,-6,0,2,-4,0,0,0,0,2,0,0,2,0,0,1,-8,0,0,-4,0,0,0,4,2,-4,0,0,0,0,0,-4,4

A258292 Expansion of $\psi(-q)^2 * \chi(q^3)^2$ in powers of q where $\psi()$, $\chi()$ are Ramanujan theta functions.

$$\frac{3^{2/3} \Gamma\left(\frac{2}{3}\right)^{4/3} \Gamma\left(\frac{11}{12}\right)^{2/3} \Gamma\left(\frac{7}{12}\right)^2 (2 + \sqrt{3})}{4 \pi^{1/6} \Gamma\left(\frac{3}{4}\right)^{14/3} (\sqrt{2} (1 + \sqrt{3}))^{2/3}}$$

0.91543293293707904869325992095130

1,-2,1,0,-2,2,0,0,1,4,-4,0,0,-4,0,0,-2,2,4,0,2,0,0,0,0,-6,2,0,0,2,0,0,1,0,-4,0,4,-4,0,0,-4,2,
0,0,0,8,0,0,0,-2,3,0,-4,2,0,0,0,0,-4,0,0,-4,0,0,-2,4,0,0,2,0,0,0,4,-4,2,0,0,0,0,0,2,4

A258327 Expansion of $\phi(x^3) / f(-x^2)$ in powers of x where $\phi()$, $f()$ are Ramanujan theta functions.

$$\frac{2 \sqrt{3} \Gamma\left(\frac{2}{3}\right) \Gamma\left(\frac{3}{4}\right)^3 e^{-\frac{\pi}{12}}}{3 \sqrt{\pi} \Gamma\left(\frac{11}{12}\right)^2 \Gamma\left(\frac{7}{12}\right) (\sqrt{3} - 1)}$$

1.0020361385820903297299273586329

1,0,1,2,2,2,3,4,5,6,7,10,13,14,17,22,26,30,36,44,52,60,70,84,99,112,131,156,179,204,
236,274,315,358,409,472,539,608,692,792,897,1010,1144,1298,1464,1644,1849,2088,
2347,2622,2940,3304,3694,4118,4600,5142

A258591 Expansion of $(\phi(-x^2) * \phi(-x^4)^2 / \phi(-x)^3)^2$ in powers of x where $\phi()$ is a Ramanujan theta function.

$$1 + \frac{\sqrt{2}}{2}$$

1.7071067811865475244008443621048

1,12,80,400,1664,6056,19904,60320,171008,458428,1171552,2872368,6790656,
15544136,34568576,74901984,158507008,328277848,666568592,1329014992,
2605464320,5028397952,9563654976,17942323424,33232441344,60814373780,

A258593 Expansion of $(\phi(x^2) * \psi(x^2) / \phi(-x)^2)^2$ in powers of x where $\phi()$, $\psi()$ are Ramanujan theta functions.

$$\frac{e^{\frac{\pi}{2}} \sqrt{2} (2 + \sqrt{2})}{16}$$

1.4516899668269447389941052335609

1,8,46,208,805,2776,8742,25584,70450,184232,460832,1108848,2578295,5814992,
12760598,27317056,57174768,117223008,235818894,466154416,906606234,
1736736024,3280271526,6114139616,11255369609,20478505104,36849912318,
65619691088

A258747 Expansion of $\chi(-x) * f(x^3) * f(-x^6)$ in powers of x where $\chi()$, $f()$ are Ramanujan theta functions.

$$\frac{e^{\frac{\pi}{3}} \sqrt{\pi} 2^{7/8}}{6 \Gamma\left(\frac{11}{12}\right) \Gamma\left(\frac{7}{12}\right)}$$

0.95678591858469314997110405509385

1,-1,0,0,0,-1,-2,2,1,0,0,2,0,0,-2,0,1,0,0,0,0,-1,-2,0,2,-2,0,2,0,-2,0,0,2,-1,0,0,0,0,0,2,3,0,
0,0,0,-2,-2,0,0,0,0,0,0,0,-2,2,1,-2,0,2,0,0,-4,0,2,-1,0,0,0,0,-2,2,0,0,0,2,0,0,0,0,2

A258764 Expansion of $\chi(-x^2) * \psi(-x^3)^2$ in powers of x where $\psi()$, $\chi()$ are Ramanujan theta functions.

$$-\frac{e^{\frac{2\pi}{3}} \pi^{3/2} 2^{7/8} \Gamma\left(\frac{11}{12}\right)^2 (-2 + \sqrt{3})}{6 \Gamma\left(\frac{2}{3}\right)^2 \Gamma\left(\frac{3}{4}\right)^4}$$

0.99797145963658385731963489791912

1,0,-1,-2,0,2,0,0,0,0,-1,0,2,2,-2,0,1,0,0,-2,0,0,-2,0,0,0,0,-2,2,2,0,0,1,0,0,-2,0,2,0,0,0,0,
-1,-2,2,2,0,0,2,0,-2,0,0,0,-2,0,0,0,-2,-2,0,0,0,0,2,0,-1,0,0,4,0,0,0,0,0,-2,0,2,-2,0,3

A258770 Expansion of $f(-x^2)^4 * \psi(-x^3)$ in powers of x where $\psi()$, $f()$ are Ramanujan theta functions.

$$-\frac{27 e^{\frac{17\pi}{24}} \sqrt{2} \Gamma\left(\frac{2}{3}\right)^{16} \Gamma\left(\frac{7}{12}\right)^{11/2} (11\sqrt{3} + 19)}{16384 \pi^{27/4} \Gamma\left(\frac{11}{12}\right)^{21/2} (-2 + \sqrt{3}) \sqrt{\sqrt{2}(\sqrt{3} - 1)}}$$

0.99245715851804356013179476560189

1,0,-4,-1,2,4,8,-2,-5,-9,-4,9,-10,2,8,2,9,-3,1,-5,10,10,-14,-22,-2,7,-9,10,-4,-10,-17,16,18,
18,31,-10,10,-20,9,6,-31,-14,0,-9,-28,-23,-7,36,-8,25,24,-28,18,41,0,6,-13,2,9,5,38,
-43,-18,-35,6,-1

A258771 Expansion of $\psi(-x) * \phi(x)^4$ in powers of x where $\phi()$, $\psi()$ are Ramanujan theta functions.

$$\frac{e^{\frac{\pi}{8}} \pi^{5/4} 2^{1/4}}{2 \Gamma\left(\frac{3}{4}\right)^5}$$

1.3328857071316208527798512039216

1,7,16,7,-16,0,17,-48,-64,16,1,-16,16,-32,32,55,-48,64,64,16,128,-9,-80,-32,16,48,-80,
96,49,-144,-16,-144,-64,-64,-96,144,33,-64,-160,0,112,32,32,-96,128,-25,0,32,-160,
304,144,96,144,-48,48,119,16,-256

A258779 Expansion of $(f(-x) * \phi(x))^2$ in powers of x where $\phi()$, $f()$ are Ramanujan theta functions.

$$\frac{e^{\frac{\pi}{12}} \pi 2^{1/4}}{2 \Gamma\left(\frac{3}{4}\right)^4}$$

1.0763170586456032648035068822444

1,2,-5,-10,9,14,-10,0,14,2,-11,-32,0,14,-9,26,2,0,16,-22,14,0,0,26,-17,-32,-22,-10,-34,14,
45,38,0,-34,38,-22,2,0,-10,64,-20,0,0,0,-23,-46,16,0,-46,-32,26,-10,25,18,0,38,50,0,0,
-22,-80,50,0,26,2

A258831 Expansion of $(\psi(-x^3) * f(-x, x^2))^2$ in powers of x where $\psi()$, $f()$ are Ramanujan theta functions.

$$\frac{e^{\frac{5\pi}{6}} \pi}{18 \Gamma\left(\frac{11}{12}\right)^2 \Gamma\left(\frac{7}{12}\right)^2}$$

0.91886796813523452421867336542317

1,-2,3,-4,5,-8,7,-8,9,-10,14,-12,16,-14,15,-20,17,-18,19,-24,26,-22,23,-28,25,-32,32,-28,
29,-30,38,-32,33,-40,40,-44,42,-38,39,-40,57,-42,43,-44,45,-62,47,-56,49,-56,62,-52,
53,-60,64,-68,64,-58,59,-60

A258832 Expansion of $\psi(-x^3) * f(-x, x^2)$ in powers of x where $\psi()$, $f()$ are Ramanujan theta functions.

$$\frac{e^{\frac{5\pi}{12}} \sqrt{\pi} 3^{1/4}}{6 \Gamma\left(\frac{3}{4}\right)^2}$$

0.95857601061952021094021958345262

1,-1,1,-1,1,-2,0,-1,1,-1,2,-1,1,0,1,-2,1,0,2,-1,1,-1,1,-1,1,-2,1,0,0,-1,2,-2,1,-1,0,-3,0,-1,1,
0,2,0,1,-1,2,-2,1,-1,0,-1,1,-1,2,-1,1,0,1,-2,1,0,3,0,0,-1,1,-2,1,-1,1,-1,3,-1,0,-1,0,-2,0

A258835 Expansion of $\psi(x)^3 * \psi(x^4)$ in powers of x where $\psi()$ is a Ramanujan theta function.

$$\frac{e^{\frac{7\pi}{8}} 2^{1/8} \Gamma\left(\frac{5}{8}\right)^4 (3 + 2\sqrt{2}) \sqrt{2 - \sqrt{2}}}{64 \pi \Gamma\left(\frac{7}{8}\right)^4}$$

1.1355922590489043204755596486485

1,3,3,4,7,6,9,13,9,10,15,15,13,19,18,16,30,21,19,27,21,31,31,24,25,39,33,28,48,30,35,
54,33,34,52,42,45,51,39,45,55,51,50,70,45,46,78,48,54,80,57,63,78,54,55,75,84,58,
79,60,61,117,63,74,87,72,81

A259491 Expansion of $(\eta(q)^2 * \eta(q^2) * \eta(q^4)^3 / \eta(q^8)^2)^2$ in powers of q .

$$-\frac{\Gamma\left(\frac{5}{8}\right)^8 (17 + 12\sqrt{2})}{64 \pi^2 \Gamma\left(\frac{7}{8}\right)^8 (\sqrt{2} - 2)}$$

0.82838090173055170738695234491180

1,-4,0,16,-16,8,0,-96,112,44,0,176,-448,-88,0,-32,1136,-200,0,-176,-2016,384,0,224,
3136,484,0,-608,-5504,-792,0,640,9328,-704,0,192,-12112,648,0,352,14112,792,0,
-208,-21312,-88,0,-2112,31808,-932,0,800

A259529 Expansion of $\psi(-x^3)^2 / \psi(-x)$ in powers of x where $\psi()$ is a Ramanujan

theta function.

$$-\frac{e^{\frac{5\pi}{8}} \pi^{5/4} 2^{1/4} \Gamma\left(\frac{11}{12}\right)^2 (-2 + \sqrt{3})}{3 \Gamma\left(\frac{2}{3}\right)^2 \Gamma\left(\frac{3}{4}\right)^3}$$

1.0450851633671021057344808210578

1,1,1,0,1,2,2,2,3,3,3,3,5,6,5,6,8,9,10,10,13,15,15,17,20,23,24,25,30,34,36,39,45,50,53,
57,65,73,77,83,94,104,110,118,132,145,154,166,185,201,214,230,253,276,293,316,
346,375,399,427,467,505,537,575

A259538 Expansion of $\psi(-x)^2 / \psi(-x^3)$ in powers of x where $\psi()$ is a Ramanujan theta function.

$$\frac{e^{-\frac{\pi}{8}} 2^{1/4} \sqrt{3} \Gamma\left(\frac{2}{3}\right) (1 + \sqrt{3})}{4 \pi^{1/4} \Gamma\left(\frac{11}{12}\right)}$$

0.91535906986293302270393383931332

1,-2,1,-1,0,1,2,-2,1,1,-2,0,1,-4,1,1,-2,2,3,-2,2,1,-4,2,2,-6,3,2,-4,3,2,-6,3,4,-8,3,5,-10,5,3,
-10,6,7,-10,5,8,-12,6,7,-16,8,7,-16,9,9,-18,10,10,-22,10,11,-26,13,12,-26,15,14,-28,
15,17,-34

A259664 Expansion of $f(-x^6) / (f(-x^2)^3 * \phi(-x)^2)$ in powers of x where $\phi()$, $f()$ are Ramanujan theta functions.

$$\frac{e^{\frac{\pi}{2}} \sqrt{3} \Gamma\left(\frac{11}{12}\right)^4 \Gamma\left(\frac{7}{12}\right)^3 (\sqrt{3} - 1)}{6 \Gamma\left(\frac{2}{3}\right) \Gamma\left(\frac{3}{4}\right)^5}$$

1.2048903633481489195905514724662

1,4,15,44,121,300,707,1572,3366,6932,13865,26952,51187,95080,173280,310172,
546438,948360,1623737,2744840,4585920,7577684,12393330,20073648,32219481,
51270912,80927964,126758160,197096678,304339020,466829342,711555332,
1078037580

A259743 Expansion of $f(-x)^3 * \psi(x^4)$ in powers of x where $\psi()$, $f()$ are Ramanujan theta functions.

$$\frac{e^{\frac{5\pi}{8}} 2^{7/8} \Gamma\left(\frac{5}{8}\right)^4 (3 + 2\sqrt{2}) \sqrt{2 - \sqrt{2}}}{64 \pi \Gamma\left(\frac{7}{8}\right)^4}$$

0.87076473385400310145937015247262

1,-3,0,5,1,-3,-7,5,0,0,2,0,1,-3,9,-6,0,0,-7,-11,0,13,9,0,1,10,0,-6,-15,0,-7,0,-15,13,9,0,17,
0,0,-11,3,-3,0,5,0,-6,-7,0,17,-19,9,0,-15,0,0,10,0,-19,0,21,18,10,0,5,0,0,-30,21,-15,
-19,-14,0

A259790 Expansion of $f(-x)^3 * \phi(x^2)$ in powers of x where $\phi()$, $f()$ are Ramanujan theta functions.

$$\frac{e^{\frac{\pi}{8}} 2^{7/8} \Gamma\left(\frac{5}{8}\right)^4 (3 + 2\sqrt{2}) \sqrt{2 + \sqrt{2}}}{32 \pi \Gamma\left(\frac{7}{8}\right)^4}$$

0.87401389243604236526751512680009

1,-3,2,-1,0,10,-7,0,-12,-6,9,10,18,0,-14,-11,0,-22,20,-6,0,23,0,4,-14,0,0,0,3,26,-30,0,2,
-28,0,10,-13,0,20,26,0,0,18,0,34,-19,-30,-60,0,0,2,-6,0,-2,34,21,-14,42,0,0,-12,0,0,4,
0,-22,-23,0,-12

A260145 Expansion of $x * (\psi(x^4) / \phi(x))^2$ in powers of x where $\phi()$, $\psi()$ are Ramanujan theta functions.

$$-\frac{e^{\pi} (\sqrt{2} - 2)}{16}$$

0.84721899384843326149863643745475

1,-4,12,-32,78,-176,376,-768,1509,-2872,5316,-9600,16966,-29408,50088,-83968,
138738,-226196,364284,-580032,913824,-1425552,2203368,-3376128,5130999,
-7738136,11585208,-17225472,25444278,-37350816,54504160,-79085568,114133296

A260158 Expansion of $\psi(x)^4 * \psi(-x^3) / f(x)$ in powers of x where $\psi()$, $f()$ are Ramanujan theta functions.

$$\frac{e^{\frac{5\pi}{6}} 3^{1/4} \pi^{3/2} \sqrt{2} (\sqrt{3} - 1)}{24 \Gamma\left(\frac{2}{3}\right) \Gamma\left(\frac{3}{4}\right)^3 \Gamma\left(\frac{7}{12}\right)}$$

1.1376211070979926275760941058988

1,3,4,6,7,6,10,12,13,15,14,18,18,21,22,18,25,27,28,24,26,33,34,42,37,30,36,42,43,45,38,

48,49,42,54,42,56,57,58,60,43,63,64,66,67,63,70,60,73,84,62,78,79,72,72,66,90,87,
88,90,74,78,98,96,97,78

A260162 Expansion of $\phi(-x) / \psi(-x^3)$ in powers of x where $\psi()$, $\phi()$ are Ramanujan theta functions.

$$\frac{e^{-\frac{3\pi}{8}} \sqrt{3} \Gamma\left(\frac{2}{3}\right) \Gamma\left(\frac{3}{4}\right) \sqrt{2} (1 + \sqrt{3})}{2 \sqrt{\pi} \Gamma\left(\frac{11}{12}\right)}$$

0.91365286950239255786176004915335

1,-2,0,1,0,0,1,0,0,0,-2,0,1,-2,0,2,0,0,1,0,0,1,-2,0,2,-4,0,3,-2,0,2,0,0,1,-4,0,4,-6,0,5,-2,0,
3,0,0,3,-6,0,6,-10,0,8,-4,0,5,-2,0,4,-10,0,9,-14,0,12,-6,0,8,-2,0,7,-14,0,14,-22,0,18,
-10

A260163 Expansion of $f(x^2)^2 / f(-x)$ in powers of x where $f()$ is a Ramanujan theta function.

$$\frac{e^{\frac{\pi}{8}} 2^{3/4} \Gamma\left(\frac{5}{8}\right) (2 + \sqrt{2})}{8 \pi^{1/4} \Gamma\left(\frac{7}{8}\right)}$$

1.0511170118678966465534600735633

1,1,4,5,8,12,17,24,36,48,65,88,116,152,200,257,328,420,532,668,840,1045,1296,1604,
1972,2416,2952,3592,4357,5272,6356,7640,9168,10964,13080,15576,18497,21920,
25932,30604,36048,42392,49752,58288,68184,79617,92820

A260164 Expansion of $f(-x^8)^2 / f(-x)$ in powers of x where $f()$ is a Ramanujan theta function.

$$\frac{e^{\frac{5\pi}{8}} 2^{1/4} \Gamma\left(\frac{5}{8}\right)}{8 \pi^{1/4} \Gamma\left(\frac{7}{8}\right)}$$

1.0472094700205707355064531575846

1,1,2,3,5,7,11,15,20,28,38,50,67,87,113,146,186,236,299,375,468,583,721,888,1093,
1336,1628,1980,2397,2894,3487,4186,5013,5991,7139,8488,10073,11924,14086,
16613,19551,22965,26934,31527,36844,42994,50085,58258

A260221 Expansion of $\phi(x^3)^2 / f(x)$ in powers of x where $\phi()$, $f()$ are Ramanujan

theta functions.

$$\frac{2^{1/4} \Gamma\left(\frac{2}{3}\right)^2 \Gamma\left(\frac{7}{12}\right)^2 (2 + \sqrt{3}) e^{-\frac{\pi}{24}}}{4 \pi^{3/4} \Gamma\left(\frac{3}{4}\right)^3}$$

0.96060532460538481078504884036632

1,-1,2,1,1,1,3,1,2,2,2,4,5,3,7,8,7,7,9,10,11,12,14,17,19,18,24,26,26,31,36,38,41,45,50,
57,61,63,75,83,86,93,106,115,123,134,146,162,173,183,206,225,237,257,283,304,
327,350,380,416,443,471,516,557

A260295 Expansion of $f(-x^2)^3 * f(-x^6)^3 / f(-x)^2$ in powers of x where $f()$ is a Ramanujan theta function.

$$\frac{e^{\frac{11\pi}{12}} \pi^{3/2} 2^{1/4} \sqrt{3} \Gamma\left(\frac{11}{12}\right)^4 \Gamma\left(\frac{7}{12}\right)^3 (\sqrt{3} - 1)}{48 \Gamma\left(\frac{2}{3}\right) \Gamma\left(\frac{3}{4}\right)^{11}}$$

1.0905039083727564123479581731975

1,2,2,4,5,6,7,6,9,8,11,14,10,14,15,16,14,14,19,20,21,22,21,20,28,26,24,22,29,30,26,32,
26,38,35,36,37,28,39,40,41,42,34,40,43,42,47,42,49,50,56,44,42,54,55,62,57,46,50,
60,56,62,50,70,60,56,74,54

A260308 Expansion of $\psi(x) * \phi(x^3)$ in powers of x where $\phi()$, $\psi()$ are Ramanujan theta functions.

$$\frac{e^{\frac{\pi}{8}} 2^{5/8} \Gamma\left(\frac{2}{3}\right)^5 \Gamma\left(\frac{7}{12}\right)^{3/2} 3^{1/8} (5\sqrt{3} + 9)}{32 \Gamma\left(\frac{11}{12}\right)^{7/2} \pi^2}$$

1.0434630110395058900130685715615

1,1,0,3,2,0,3,0,0,2,1,0,2,4,0,3,0,0,4,0,0,1,2,0,2,0,0,4,3,0,2,2,0,4,0,0,1,2,0,2,2,0,2,0,0,1,
0,0,8,2,0,2,0,0,2,3,0,2,4,0,0,0,0,4,0,0,1,2,0,4,0,0,2,0,0,2,4,0,5,0,0,4,2,0,2,2,0

A260313 Expansion of $\phi(x)^2 / \psi(x)$ in powers of x where $\phi()$, $\psi()$ are Ramanujan theta functions.

$$\frac{e^{-\frac{\pi}{8}} \pi^{1/4} 2^{5/8}}{\Gamma\left(\frac{3}{4}\right)}$$

1.1313588429683392723306478646975

1,3,1,-2,3,4,-3,-3,2,7,0,-9,4,9,-5,-11,6,18,-7,-18,9,20,-12,-27,14,36,-11,-42,18,46,-24,
-54,23,69,-27,-79,37,90,-44,-104,48,126,-52,-147,65,162,-78,-189,85,225,-91,-254,
114,286,-136,-327,142,381,-159

A260314 Expansion of $\phi(x)^2 / \phi(-x^2)$ in powers of x where $\phi()$ is a Ramanujan theta function.

$$\frac{\pi^{1/4} 2^{1/8}}{\Gamma\left(\frac{3}{4}\right)}$$

1.1847655626648317705807267489840

1,4,6,8,16,24,32,48,66,92,128,168,224,296,384,496,640,816,1030,1304,1632,2032,2528,
3120,3840,4716,5760,7008,8512,10296,12416,14944,17922,21440,25600,30480,
36208,42936,50784,59952,70656,83088,97536,114312,133728

A260514 Expansion of $\phi(x) * \chi(x^2)^4$ in powers of x where $\phi()$, $\chi()$ are Ramanujan theta functions.

$$-\frac{e^{-\frac{\pi}{3}} \Gamma\left(\frac{5}{8}\right) \sqrt{2 + \sqrt{2}}}{\pi^{1/4} \Gamma\left(\frac{7}{8}\right) (\sqrt{2} - 2)}$$

1.0945730198286129524527222814240

1,2,4,8,8,12,16,16,29,36,44,64,72,88,112,128,162,202,244,304,352,420,496,576,703,
820,968,1152,1320,1544,1792,2048,2405,2782,3204,3728,4240,4856,5568,6320,7259,
8276,9416,10752,12144,13760,15568,17536,19875,22416

A260515 Expansion of $\phi(x^2) * \chi(x)^4$ in powers of x where $\phi()$, $\chi()$ are Ramanujan theta functions.

$$\frac{e^{-\frac{\pi}{6}} 2^{1/4} \Gamma\left(\frac{5}{8}\right) (2 + \sqrt{2})}{2 \pi^{1/4} \Gamma\left(\frac{7}{8}\right)}$$

1.1891946735146188735455139188533

1,4,8,16,29,44,72,112,162,244,352,496,703,968,1320,1792,2405,3204,4240,5568,7259,
9416,12144,15568,19875,25260,31944,40256,50523,63140,78672,97680,120870,
149148,183480,225056,275350,335984,408920,496544,601514,727044

A260599 Expansion of $\psi(x^4) / \chi(-x)^2$ in powers of x where $\psi()$, $\chi()$ are Ramanujan theta functions.

$$\frac{e^{\frac{7\pi}{12}} \Gamma\left(\frac{5}{8}\right) \sqrt{2}}{8 \pi^{1/4} \Gamma\left(\frac{7}{8}\right)}$$

1.0925518206975248973204060154220

1,2,3,6,10,16,25,38,55,80,115,160,223,306,415,560,747,988,1301,1700,2206,2850,3661,
4676,5950,7536,9500,11936,14936,18620,23141,28662,35386,43566,53480,65466,
79937,97356,118277,143370,173391,209232,251966,302806

A261320 Expansion of $(\phi(q^3) / \phi(q))^2$ in powers of q where $\phi()$ is a Ramanujan theta function.

$$\frac{\Gamma\left(\frac{2}{3}\right)^2 \Gamma\left(\frac{7}{12}\right)^2 (2 + \sqrt{3})}{4 \pi \Gamma\left(\frac{3}{4}\right)^2}$$

0.84748658561247082609040866068065

1,-4,12,-28,60,-120,228,-416,732,-1252,2088,-3408,5460,-8600,13344,-20424,30876,
-46152,68268,-100016,145224,-209120,298800,-423840,597108,-835804,1162824,
-1608508,2212896,-3028632,4124664,-5590976,7544604,-10137264,13565016

A261321 Expansion of $(\phi(q) / \phi(q^3))^2$ in powers of q where $\phi()$ is a Ramanujan theta function.

$$-\frac{2 \pi \sqrt{3} \Gamma\left(\frac{11}{12}\right)^2 (-2 + \sqrt{3})}{\Gamma\left(\frac{2}{3}\right)^2 \Gamma\left(\frac{3}{4}\right)^2}$$

1.1799596795709859174936490058908

1,4,4,-4,-12,-8,12,32,20,-28,-72,-48,60,152,96,-120,-300,-184,228,560,344,-416,-1008,
-608,732,1756,1048,-1252,-2976,-1768,2088,4928,2900,-3408,-7992,-4672,5460,
12728,7408,-8600,-19944,-11544,13344,30800,17744,-20424

A261325 Expansion of $f(x^3, x^3) * f(x, x^5) / f(x, x)^2$ in powers of x where $f(,)$ is Ramanujan's general theta function.

$$\frac{e^{\frac{\pi}{3}} \Gamma\left(\frac{11}{12}\right)^3 \Gamma\left(\frac{7}{12}\right)^3}{4 \Gamma\left(\frac{3}{4}\right)^6}$$

0.88396725791824686753037573112380

1,-3,8,-18,38,-75,140,-252,439,-744,1232,-1998,3182,-4986,7700,-11736,17673,-26322,
38808,-56682,82070,-117867,167996,-237744,334202,-466836,648224,-895014,
1229148,-1679436,2283568,-3090672,4164578,-5587941,7467464,-9940482

A261326 Expansion of $f(-x^2, -x^4)^2 / (f(x^3, -x^6) * f(-x, x^2))$ in powers of x where $f(,)$ is Ramanujan's general theta function.

$$\frac{\pi^{2/3} 3^{1/3} \Gamma\left(\frac{3}{4}\right)^{26/3} (\sqrt{2} (1 + \sqrt{3}))^{11/3} \sqrt{2}}{\Gamma\left(\frac{2}{3}\right)^{4/3} \Gamma\left(\frac{11}{12}\right)^{11/3} (66\sqrt{3} + 114) \Gamma\left(\frac{7}{12}\right)^5}$$

1.0391464557735634224313120482322

1,1,-2,-4,-3,4,12,8,-10,-28,-18,24,60,38,-48,-120,-75,92,228,140,-172,-416,-252,304,
732,439,-524,-1252,-744,884,2088,1232,-1450,-3408,-1998,2336,5460,3182,-3704,
-8600,-4986,5772,13344,7700,-8872,-20424,-11736

A261369 Expansion of $(\psi(-x^3) / f(x))^2$ in powers of x where $\psi(,)$, $f(,)$ are Ramanujan theta functions.

$$-\frac{e^{\frac{2\pi}{3}} \pi \Gamma\left(\frac{11}{12}\right)^2 (-2 + \sqrt{3})}{3 \Gamma\left(\frac{2}{3}\right)^2 \Gamma\left(\frac{3}{4}\right)^2}$$

0.92201826711722532999242747285392

1,-2,5,-12,24,-46,86,-152,262,-442,725,-1168,1852,-2886,4436,-6736,10103,-14994,
22040,-32092,46336,-66380,94378,-133256,186926,-260576,361126,-497716,682340,
-930774,1263624,-1707672,2297737,-3078850,4109022,-5462924,7236280

A261394 Expansion of $\phi(q)^4 / \phi(q^3)$ in powers of q where $\phi(,)$ is a Ramanujan theta function.

$$\frac{\pi^{5/4} 3^{1/4} \Gamma\left(\frac{11}{12}\right) (\sqrt{3} - 1)}{\Gamma\left(\frac{2}{3}\right) \Gamma\left(\frac{3}{4}\right)^4}$$

1.3929791042022874617110949187752

1,8,24,30,8,0,36,48,24,32,48,48,30,0,48,72,8,48,96,48,0,0,96,96,36,56,48,102,48,0,120,
48,24,72,48,96,32,0,96,120,48,48,144,144,48,0,96,96,30,56,120,144,0,0,108,96,48,
120,144,48,72,0,144,192,8,96

A261444 Expansion of $f(x^3)^2 * f(-x^6)^2 / f(-x^2)$ in powers of x where $f()$ is a Ramanujan theta function.

$$\frac{e^{\frac{2\pi}{3}} \sqrt{3} \pi^{3/4}}{18 \Gamma\left(\frac{3}{4}\right)^3}$$

1.0020361190050734006519898042039

1,0,1,2,2,2,0,4,2,0,1,4,4,2,2,4,5,0,2,2,6,4,2,4,6,0,0,6,4,2,4,8,7,0,2,10,4,6,0,4,6,0,1,6,8,6,
4,8,4,0,4,8,10,4,2,8,8,0,2,6,12,4,4,8,8,0,5,8,6,4,0,8,14,0,2,10,8,10,2,8,11,0,6,6,6

A261454 Expansion of $a(x^2) / f(-x)$ in powers of x where $a()$ is a cubic AGM theta function and $f()$ is a Ramanujan theta function.

$$\frac{e^{-\frac{\pi}{24}} 2^{17/24} \sqrt{\Gamma\left(\frac{5}{6}\right) \Gamma\left(\frac{7}{12}\right)} (1 + \sqrt{3})}{4 \Gamma\left(\frac{3}{4}\right)^2}$$

1.0589431333220938230438709057329

1,1,8,9,17,25,47,63,106,144,216,296,425,569,807,1064,1449,1905,2551,3304,4353,5592,
7254,9247,11859,14978,19038,23872,30034,37433,46734,57854,71739,88305,
108766,133191,163099,198697,242069,293535,355788,429609,518396

A261734 Expansion of $\text{Product}_{\{k \geq 1\}} (1 + x^{(4*k)}) / (1 + x^k)$.

$$\frac{e^{\frac{\pi}{8}} 3^{5/32} 2^{13/16} \Gamma\left(\frac{5}{8}\right)^{5/4} \Gamma\left(\frac{11}{12}\right)^{5/8} \Gamma\left(\frac{7}{12}\right)^{5/8} (2 + \sqrt{2})^{1/4}}{\pi^{5/8} \Gamma\left(\frac{7}{8}\right)^{5/4} (\sqrt{2} \sqrt{2 - \sqrt{2}})^{3/4} \sqrt{\sqrt{2} \sqrt{2 + \sqrt{2}}} (\sqrt{2} (1 + \sqrt{3}))^{5/8} (\sqrt{2} (\sqrt{3} - 1))^{5/8}}$$

0.95671206149608179533578282572943

1,-1,0,-1,2,-2,1,-2,4,-4,3,-4,8,-8,6,-9,14,-14,12,-16,24,-25,22,-28,40,-42,38,-48,65,-68,
64,-78,102,-108,104,-124,159,-168,164,-194,242,-256,254,-296,362,-385,386,-444,
536,-570,576,-658,782,-832,848,-961

A261775 Expansion of $\text{Product}_{\{k \geq 1\}} (1 - x^{(8*k)}) / (1 - x^k)$.

$$\frac{e^{\frac{7\pi}{24}} 2^{15/16}}{2 \sqrt{\sqrt{2} \sqrt{2-\sqrt{2}}} \sqrt{\sqrt{2} \sqrt{2+\sqrt{2}}} (2+\sqrt{2})^{1/4}}$$

1.0472094700333064328630485674222

1,1,2,3,5,7,11,15,21,29,40,53,72,94,124,161,208,266,341,431,545,684,856,1064,1322,
1631,2009,2464,3014,3672,4467,5411,6543,7888,9489,11383,13632,16280,19409,
23088,27415,32483,38430,45371,53485,62939,73950,86742

A261776 Expansion of Product_{k>=1} (1 - x^(10*k))/(1 - x^k).

$$-\frac{e^{\frac{3\pi}{8}} 2^{27/40} 5^{1/4} \Gamma\left(\frac{4}{5}\right)^2 (-5 + \sqrt{5})}{20 \Gamma\left(\frac{9}{10}\right) \Gamma\left(\frac{7}{10}\right)}$$

1.0472094700460183470343370558811

1,1,2,3,5,7,11,15,22,30,41,55,75,98,130,169,220,282,363,460,584,735,923,1151,1435,
1775,2194,2698,3311,4045,4935,5994,7270,8787,10600,12749,15310,18330,21912,
26130,31107,36949,43823,51863,61290,72293,85145,100107

A261968 Expansion of phi(q^5) / phi(q) in powers of q where phi() is a Ramanujan theta function.

$$\frac{8 2^{3/5} 5^{1/4} \Gamma\left(\frac{9}{10}\right)^3 \Gamma\left(\frac{7}{10}\right)^3 (5 + \sqrt{5})^3 \left(\frac{\sqrt{5}}{4} - \frac{1}{4}\right)^3 \left(\frac{\sqrt{5}}{4} + \frac{1}{4}\right)^3}{125 \Gamma\left(\frac{4}{5}\right)^6}$$

0.92044206525992603576536519421094

1,-2,4,-8,14,-22,36,-56,84,-126,184,-264,376,-528,732,-1008,1374,-1856,2492,-3320,
4394,-5784,7568,-9848,12756,-16442,21096,-26960,34312,-43500,54956,-69184,
86804,-108576,135392,-168336,208722,-258096,318320,-391632

A262050 Expansion of f(-x)^2 * f(-x^10) / phi(-x)^3 in powers of x where phi(), f() are Ramanujan theta functions.

$$-\frac{e^{\frac{\pi}{2}} 2^{3/10} 5^{1/4} \Gamma\left(\frac{4}{5}\right)^2 (-5 + \sqrt{5})}{20 \Gamma\left(\frac{9}{10}\right) \Gamma\left(\frac{7}{10}\right)}$$

1.1958985981374791015665003673362

1,4,11,28,63,132,264,504,928,1660,2892,4924,8221,13480,21750,34592,54288,84168,
129048,195816,294282,438324,647413,948748,1380107,1993632,2860984,4080172,
5784560,8154900,11435142,15953124,22147824,30604868,42102636,57672312

A262152 Expansion of $f(-x^6)^3 / (f(-x^4)^2 * \psi(x))$ in powers of x where $\psi()$, $f()$ are Ramanujan theta functions.

$$\frac{e^{\frac{7\pi}{24}} \pi^{1/4} 2^{13/24} \Gamma\left(\frac{11}{12}\right) (\sqrt{3} - 1)}{3 \Gamma\left(\frac{3}{4}\right) \sqrt{\Gamma\left(\frac{5}{6}\right)}}$$

0.95850868194118074962821495719912

1,-1,1,-2,5,-6,4,-8,18,-20,16,-27,52,-58,47,-74,133,-146,127,-187,312,-343,304,-431,
687,-751,687,-941,1436,-1569,1459,-1948,2879,-3139,2975,-3885,5569,-6071,5826,
-7472,10457,-11385,11067,-13972,19122,-20813,20423

A262156 Expansion of $f(-x^6)^3 / (f(x)^2 * \psi(x))$ in powers of x where $\psi()$, $f()$ are Ramanujan theta functions.

$$\frac{e^{\frac{13\pi}{24}} 2^{1/8} \sqrt{3} \Gamma\left(\frac{2}{3}\right) \Gamma\left(\frac{11}{12}\right)^5 \Gamma\left(\frac{7}{12}\right)^6}{16 \Gamma\left(\frac{3}{4}\right)^{11} \sqrt{\pi}}$$

0.88389900465570748699923996957512

1,-3,8,-19,42,-86,166,-309,557,-974,1661,-2773,4543,-7316,11600,-18140,28011,-42751,
64550,-96503,142951,-209939,305844,-442213,634865,-905361,1282957,-1807175,
2531156,-3526051,4886764,-6739401,9250902,-12641475,17200638

A262930 Expansion of $(\psi(-q) / f(q^3))^2$ in powers of q where $\psi()$, $f()$ are Ramanujan theta functions.

$$\frac{\pi^{1/3} 3^{2/3} \Gamma\left(\frac{11}{12}\right)^{2/3}}{\Gamma\left(\frac{2}{3}\right)^{2/3} \Gamma\left(\frac{3}{4}\right)^{2/3} (\sqrt{2} (1 + \sqrt{3}))^{2/3}}$$

0.91513750447758119898074172599059

1,-2,1,-4,6,-2,12,-16,5,-28,36,-12,60,-76,24,-120,150,-46,228,-280,86,-416,504,-152,
732,-878,262,-1252,1488,-442,2088,-2464,725,-3408,3996,-1168,5460,-6364,1852,
-8600,9972,-2886,13344,-15400,4436,-20424,23472

A263502 Expansion of $\phi(q) * f(-q^2)^3 / f(-q^6)$ in powers of q where $\phi()$, $f()$ are Ramanujan theta functions.

$$\frac{\pi^{7/12} 3^{1/6} \Gamma\left(\frac{2}{3}\right)^{1/3} (\sqrt{2} (1 + \sqrt{3}))^{4/3} \sqrt{2} (\sqrt{3} - 1)}{8 \Gamma\left(\frac{3}{4}\right)^{2/3} \Gamma\left(\frac{11}{12}\right)^{4/3} \Gamma\left(\frac{7}{12}\right)}$$

1.0803482892505127968787455772487

1,2,-3,-6,2,0,0,12,-3,-4,12,-6,-6,0,-6,0,2,-6,-12,12,0,0,24,-12,0,14,-6,-6,12,0,-24,12,-3,0,
12,-12,-4,0,-12,-24,12,-6,0,36,-6,0,24,-12,-6,14,-15,0,0,0,0,24,-6,-24,36,-6,0,0,-18,
-24,2,-12,-24,36

A263526 Expansion of $f(x, x)^2 / (f(x^3, x^3) * f(x, x^5))$ in powers of x where $f(,)$ is Ramanujan's general theta function.

$$\frac{4 e^{-\frac{\pi}{3}} \Gamma\left(\frac{3}{4}\right)^6}{\Gamma\left(\frac{11}{12}\right)^3 \Gamma\left(\frac{7}{12}\right)^3}$$

1.1312636198257066491592584111853

1,3,1,-3,-1,0,1,6,0,-6,-3,-3,4,12,1,-12,-6,-3,5,24,1,-24,-10,-6,11,42,4,-42,-19,-12,17,72,
4,-69,-31,-18,31,120,9,-114,-50,-30,46,189,11,-180,-79,-48,77,294,21,-276,-122,-72,
112,450,28,-420,-183,-108

A263571 Expansion of $f(x^2, x^2) * f(x, x^5)$ in powers of x where $f(,)$ is Ramanujan's general theta function.

$$\frac{e^{\frac{\pi}{3}} 2^{1/4} \sqrt{3} \Gamma\left(\frac{5}{8}\right)^3 \Gamma\left(\frac{11}{12}\right) (2 + \sqrt{2})^2 (\sqrt{3} - 1)}{48 \sqrt{\pi} \Gamma\left(\frac{2}{3}\right) \Gamma\left(\frac{7}{8}\right)^3}$$

1.0471103540644912599561039393462

1,1,2,2,0,1,0,2,3,2,2,0,0,2,0,0,3,0,4,2,0,1,0,4,2,0,2,0,0,2,0,0,2,3,2,2,0,2,0,2,3,2,2,0,0,0,
0,0,4,0,2,4,0,2,0,2,1,0,6,0,0,0,0,0,2,3,2,2,0,0,0,2,4,4,2,0,0,2,0,0,2,0,0,4,0,1,0

A263773 Expansion of $b(-q)^2$ in powers of q where $b()$ is a cubic AGM theta function.

$$\frac{\pi^{4/3} 3^{2/3} \Gamma\left(\frac{11}{12}\right)^{2/3}}{\Gamma\left(\frac{2}{3}\right)^{2/3} \Gamma\left(\frac{3}{4}\right)^{14/3} (\sqrt{2} (1 + \sqrt{3}))^{2/3}}$$

1.2749731674409098286283971433024

1,6,9,-12,-42,-18,36,48,45,-12,-108,-36,84,84,72,-72,-186,-54,36,120,126,-96,-216,-72,
180,186,126,-12,-336,-90,216,192,189,-144,-324,-144,84,228,180,-168,-540,-126,288,
264,252,-72,-432,-144,372,342,279,-216

A263923 Expansion of $\psi(-x^3)^2 * f(-x^2)^3 / f(-x)^2$ in powers of x where $\psi()$, $f()$ are Ramanujan theta functions.

$$-\frac{e^{\frac{11\pi}{12}} \pi^{7/4} 2^{3/4} \Gamma\left(\frac{11}{12}\right)^2 (-2 + \sqrt{3})}{12 \Gamma\left(\frac{2}{3}\right)^2 \Gamma\left(\frac{3}{4}\right)^5}$$

1.0903279304967872811888763919962

1,2,2,2,1,2,3,4,5,2,3,4,4,4,3,4,4,4,5,4,3,8,7,6,4,4,6,4,9,6,4,4,4,8,5,6,9,4,7,6,7,10,6,10,7,
4,9,10,5,6,6,10,6,6,9,4,9,8,10,6,6,12,8,12,8,6,10,8,13,6,6,8,12,12,6,8,10,12,11,10,7,8

A263993 Expansion of $f(-x, x^2) / f(-x, -x^3)^3$ in powers of x where $f(), ()$ is Ramanujan's general theta function.

$$\frac{2 e^{-\frac{\pi}{3}} 3^{3/4} \Gamma\left(\frac{2}{3}\right) \Gamma\left(\frac{3}{4}\right)^3 (1 + \sqrt{3})}{3 \pi \Gamma\left(\frac{11}{12}\right)}$$

1.0947802255259739831207132829411

1,2,4,10,20,36,64,112,189,308,492,778,1210,1844,2776,4144,6114,8914,12884,18484,
26302,37124,52040,72512,100415,138196,189160,257648,349184,470932,632312,
845472,1125853,1493222,1973060,2597892,3408754,4457600,5810544

A264026 Expansion of $(f(x^3) / f(x))^6$ in powers of x where $f()$ is a Ramanujan theta function.

$$\frac{e^{\frac{\pi}{2}} \Gamma\left(\frac{2}{3}\right)^2 \Gamma\left(\frac{3}{4}\right)^2 (1 + \sqrt{3})^2}{36 \pi \Gamma\left(\frac{11}{12}\right)^2}$$

0.78458342233093470906550286322156

1,-6,27,-92,279,-756,1913,-4536,10260,-22220,46479,-94176,185749,-357426,673056,
-1242404,2252772,-4017816,7058609,-12228060,20911230,-35330324,59023728,
-97568712,159693831,-258941124,416181510,-663337512,1048935414,-1646245836

A265256 Number of partitions of n having no odd singletons ($n \geq 0$).

$$\frac{e^{-\frac{\pi}{8}} 2^{3/8} 3^{1/4} \Gamma\left(\frac{2}{3}\right)^{2/3} \Gamma\left(\frac{3}{4}\right)^{1/3} \Gamma\left(\frac{7}{12}\right)^{2/3}}{\pi^{7/12} (\sqrt{2} (\sqrt{3} - 1))^{2/3}}$$

1.0038298891544249612114947332557

1,0,2,1,4,2,8,4,14,9,24,16,41,28,66,49,104,80,163,128,248,203,372,312,554,472,810,
708,1172,1042,1684,1516,2390,2188,3364,3118,4705,4404,6522,6177,8980,8584,
12295,11844,16718,16244,22604,22120,30413,29944,40692

A266575 Expansion of $q * f(-q^4)^6 / \phi(-q)$ in powers of q where $\phi()$, $f()$ are Ramanujan theta functions.

$$\frac{e^{\pi} \pi^{5/4}}{32 \Gamma\left(\frac{3}{4}\right)^5}$$

1.0945730197753661050401057604586

1,2,4,8,8,12,16,16,25,28,28,32,40,40,48,64,48,62,76,64,80,92,80,96,121,100,112,128,
120,136,160,128,144,184,152,200,200,164,208,224,192,216,252,224,248,296,224,
256,337,262,312,320,280,336,368,320,336,396

A271593 Expansion of $\psi(-x^3) / f(-x)$ in powers of x where $\psi()$, $f()$ are Ramanujan theta functions.

$$\frac{e^{\frac{\pi}{3}} \sqrt{\pi} 2^{5/8} \sqrt{3} \Gamma\left(\frac{11}{12}\right) (\sqrt{3} - 1)}{6 \Gamma\left(\frac{2}{3}\right) \Gamma\left(\frac{3}{4}\right)}$$

1.0471249607464640008903946008445

1,1,2,2,4,5,8,10,15,18,26,32,44,54,72,88,115,140,180,218,276,333,416,500,618,740,906,
1080,1312,1558,1880,2224,2666,3143,3746,4402,5220,6114,7216,8426,9903,11530,
13498,15672,18280,21168,24608,28424,32940,37956

A273225 Number of bipartitions of n wherein odd parts are distinct (and even parts are unrestricted).

$$\frac{2 e^{-\frac{\pi}{4}} \sqrt{2} \Gamma\left(\frac{3}{4}\right)^2}{\sqrt{\pi}}$$

1.0925556308529143244425098642797

1,2,3,6,11,18,28,44,69,104,152,222,323,460,645,902,1254,1722,2343,3174,4278,5722,
7601,10056,13250,17358,22623,29382,38021,48984,62857,80404,102528,130282,
165002,208398,262495,329666,412878,515840

A273226 G.f. is the cube of the g.f. of A006950.

$$\frac{4 e^{-\frac{3\pi}{8}} 2^{1/4} \Gamma\left(\frac{3}{4}\right)^3}{\pi^{3/4}}$$

1.1419979898953055710560474442382

1,3,6,13,27,51,91,159,273,455,738,1179,1860,2886,4410,6667,9981,14781,21671,31512,
45474,65113,92547,130689,183439,255930,355017,489895,672672,919152,1250107,
1692846,2282895,3066180,4102224,5468160,7263217,9614436,12684633,16682276

A273228 G.f. is the fourth power of the g.f. of A006950.

$$\frac{8 e^{-\frac{\pi}{2}} \Gamma\left(\frac{3}{4}\right)^4}{\pi}$$

1.1936778065084095948820843719377

1,4,10,24,55,116,230,440,819,1480,2602,4480,7580,12604,20620,33272,53029,83520,
130088,200600,306488,464168,697150,1039032,1537435,2259300,3298428,4785880,
6903657,9903040,14129846,20058488,28336790,39845456,55778050,77747328,
107924347,149221160

A274327 Expansion of Product_{n>=1} (1 - x^(4*n))/(1 - x^n)^4 in powers of x.

$$\frac{2^{5/8} \Gamma\left(\frac{3}{4}\right)^3}{\pi^{3/4}}$$

1.2026319272091137156284102254813

1,4,14,40,104,248,560,1200,2474,4924,9520,17928,33008,59528,105408,183536,314744,
532208,888382,1465208,2389808,3857456,6166096,9766576,15336816,23888844,
36924656,56659296,86341664,130710104,196640576,294059872,437232746,
646561792

A274621 Coefficients in the expansion Product_{n>=1} (1-q^(2n-1))^2/(1-q^(2n))^2.

$$\frac{2 e^{-\frac{\pi}{4}} 2^{1/4} \Gamma\left(\frac{3}{4}\right)^2}{\sqrt{\pi}}$$

0.91872611344947630034378359084058

1,-2,3,-6,11,-18,28,-44,69,-104,152,-222,323,-460,645,-902,1254,-1722,2343,-3174,
4278,-5722,7601,-10056,13250,-17358,22623,-29382,38021,-48984,62857,-80404,
102528,-130282,165002,-208398,262495,-329666,412878,-515840,642941,-799362,
991478

A275372 Expansion of $f(-x) * f(-x^2)^4 / \phi(x^2)$ in powers of x where $\phi()$, $f()$ are Ramanujan theta functions.

$$\frac{e^{\frac{3\pi}{8}} 2^{1/8} \Gamma\left(\frac{5}{8}\right)^4 (3 + 2\sqrt{2}) \sqrt{2 - \sqrt{2}}}{16 \pi \Gamma\left(\frac{7}{8}\right)^4}$$

0.94426575087316360608067988324438

1,-1,-7,6,20,-13,-34,15,53,-25,-91,52,135,-65,-180,82,253,-133,-343,160,449,-207,-603,
306,780,-348,-979,438,1241,-600,-1557,703,1924,-890,-2375,1115,2910,-1300,-3535,
1620,4318,-1993,-5198,2335,6180,-2783,-7420

A276285 Number of ways of writing n as a sum of 13 squares.

$$\frac{\pi^{13/4}}{\Gamma\left(\frac{3}{4}\right)^{13}}$$

2.9379726257591778249740046597093

1,26,312,2288,11466,41808,116688,265408,535704,1031914,1899664,3214224,5043376,
7801744,12066912,17689152,24443978,34039200,48210760,64966096,83323344,
109157152,145532816,185245632,227110416,284788010,363737712

A276286 Number of ways of writing n as a sum of 14 squares.

$$\frac{\pi^{7/2}}{\Gamma\left(\frac{3}{4}\right)^{14}}$$

3.1919157350165391994683423126568

1,28,364,2912,16044,64792,200928,503360,1089452,2186940,4196920,7544992,
12547808,19975256,31553344,48484800,70439852,99602104,142487436,200569824,

268594872,354052608,476105504,630908096,800698080,1008274932,1296257144

A276287 Number of ways of writing n as a sum of 15 squares.

$$\frac{\pi^{15/4}}{\Gamma\left(\frac{3}{4}\right)^{15}}$$

3.4678083689814810551765685955840

1,30,420,3640,21870,96936,331240,911040,2128260,4495430,8972712,16946280,
29822520,49476840,80027280,127083328,193511790,282611280,409172940,
590913960,825736296,1115671760,1509537960,2048372160,2698852520,
3463029894

A276491 Expansion of $q \cdot \text{Product}_{\{k \geq 1\}} (1 - q^{(2 \cdot k)})^2 \cdot (1 - q^{(10 \cdot k)})^2$.

$$\frac{e^{\pi} \pi (5 - \sqrt{5}) \sqrt{5}}{200 \Gamma\left(\frac{3}{4}\right)^4}$$

0.99626164023121372722539583539140

1,0,-2,0,-1,0,2,0,1,0,0,0,2,0,2,0,-6,0,-4,0,-4,0,6,0,1,0,4,0,6,0,-4,0,0,0,-2,0,2,0,-4,0,6,0,
-10,0,-1,0,-6,0,-3,0,12,0,-6,0,0,0,8,0,12,0,2,0,2,0,-2,0,2,0,-12,0,-12,0,2,0,-2,0,0,0,8,0,
-11,0,6,0,6,0,-12,0,-6,0,4,0,8,0,4,0,2,0,0,0,6,0,14,0,4,0,-6,0,2,0,-4,0,-6,0,-6,0,2,0,-12,
0,-11,0,-12,0,-1,0,2,0,20,0,0,0,-8,0,-4

A277283 Expansion of $\text{Product}_{\{n \geq 1\}} (1 - x^{(6 \cdot n)}) / (1 - x^n)^6$ in powers of x .

$$\frac{4 \cdot 2^{1/4} \cdot 3^{5/6} \cdot \Gamma\left(\frac{3}{4}\right)^{8/3} \cdot \Gamma\left(\frac{11}{12}\right)^{4/3} \cdot \Gamma\left(\frac{7}{12}\right) \cdot (1 + \sqrt{3})}{3 \pi^{13/12} \cdot \Gamma\left(\frac{2}{3}\right)^{1/3} \cdot (\sqrt{2} (1 + \sqrt{3}))^{4/3}}$$

1.3188680966089846611920574920244

1,6,27,98,315,918,2491,6366,15498,36182,81501,177876,377558,781626,1582173,
3137832,6108051,11687598,22012816,40855674,74799828,135210868,241511115,
426570624,745516240,1290006276,2211202692,3756468658,6327617862,
10572763842

A279270 Expansion of $\phi(-x) \cdot \chi(-x)^2 \cdot f(-x^6)^3$ in powers of x where $\phi()$, $\chi()$, $f()$ are Ramanujan theta functions.

$$\frac{e^{\frac{2\pi}{3}} \pi^{3/2} \sqrt{3} \Gamma\left(\frac{11}{12}\right)^8 \Gamma\left(\frac{7}{12}\right)^7 (\sqrt{3} - 1)}{32 \Gamma\left(\frac{2}{3}\right) \Gamma\left(\frac{3}{4}\right)^{19}}$$

0.83619128078263877580891790816188

1,-4,5,-4,10,-16,12,-8,14,-28,21,-8,30,-40,28,-16,21,-52,34,-20,50,-56,48,-24,38,-72,44,
-28,70,-88,56,-24,43,-100,70,-36,80,-112,84,-32,62,-104,85,-44,110,-136,56,-56,74,
-148,102,-40,130,-144,120,-56,64

A279328 Expansion of Product_{k>=1} (1 + x^(2*k)) / (1 - x^k).

$$\frac{e^{\frac{\pi}{24}} \Gamma\left(\frac{3}{4}\right)}{\pi^{1/4}}$$

1.0491687394026583469918524594832

1,1,3,4,8,11,20,27,44,60,92,124,183,244,348,461,640,840,1144,1488,1992,2572,3393,
4348,5668,7212,9301,11760,15024,18880,23924,29892,37596,46728,58376,72193,
89644,110340,136248,166968,205115,250316,306056,372032,452876

A279918 Expansion of f(-x^2)^7 / (f(x) * f(-x^8)^2) in powers of x where f() is a Ramanujan theta function.

$$\frac{2^{1/8} \Gamma\left(\frac{5}{8}\right)^4 (3 + 2\sqrt{2}) \sqrt{2 + \sqrt{2}} e^{-\frac{\pi}{8}}}{8 \pi \Gamma\left(\frac{7}{8}\right)^4}$$

0.94778917005735130340492317590258

1,-1,-5,4,5,0,11,-15,-18,3,-10,29,10,11,37,-51,-16,-30,-65,62,53,22,50,-61,-52,-4,-81,
120,62,0,124,-182,-85,-43,-157,171,123,60,202,-198,-174,0,-190,301,117,54,278,
-375,-171,-153,-399,370,300,108,408,-451

A279955 Expansion of chi(-x^4)^4 * f(-x^4)^2 * f(-x)^2 in powers of x where chi(), f() are Ramanujan theta functions.

$$-\frac{e^{-\frac{\pi}{4}} 2^{3/4} \Gamma\left(\frac{5}{8}\right)^4 (3 + 2\sqrt{2})}{8 \pi \Gamma\left(\frac{7}{8}\right)^4 (\sqrt{2} - 2)}$$

0.91185081560063096721470775592386

1,-2,-1,2,-5,14,4,-12,5,-40,0,26,11,68,-15,-30,-18,-106,3,50,-10,182,29,-104,10,-270,11,
130,37,360,-51,-164,-16,-506,-30,266,-65,686,62,-320,53,-898,22,414,50,1206,-61,
-612,-52,-1560,-4,696,-81,1958,120

A280339 Expansion of $\phi(x)^2 * \chi(x^2)^4 * f(-x)^2$ in powers of x where $\phi()$, $\chi()$, $f()$ are Ramanujan theta functions.

$$-\frac{e^{-\frac{\pi}{4}} \Gamma\left(\frac{5}{8}\right)^4 (3 + 2\sqrt{2})}{4\pi \Gamma\left(\frac{7}{8}\right)^4 (\sqrt{2} - 2)}$$

1.0843794777333045516067182758428

1,2,-1,-2,-5,-14,4,12,5,40,0,-26,11,-68,-15,30,-18,106,3,-50,-10,-182,29,104,10,270,11,
-130,37,-360,-51,164,-16,506,-30,-266,-65,-686,62,320,53,898,22,-414,50,-1206,-61,
612,-52,1560,-4,-696,-81,-1958,120

A280384 Expansion of $f(x)^3 * f(-x^2) * \chi(x^3)^3$ in powers of x where $\chi()$, $f()$ are Ramanujan theta functions.

$$\frac{3\sqrt{3} \Gamma\left(\frac{2}{3}\right)^2 \Gamma\left(\frac{11}{12}\right)^3 \Gamma\left(\frac{7}{12}\right)^5 (2 + \sqrt{3}) e^{-\frac{\pi}{6}}}{16 \Gamma\left(\frac{3}{4}\right)^{12}}$$

1.1273983833580575174743286983935

1,3,-1,-5,8,-1,-28,11,10,-41,41,26,-53,84,21,-101,76,3,-129,99,14,-190,187,59,-299,263,
62,-336,340,27,-459,370,111,-645,518,228,-774,806,179,-973,882,147,-1233,955,291,
-1565,1325,395,-1883,1767,338,-2318,1994

A280666 Expansion of $\eta(q)^6/\eta(q^6)$ in powers of q .

$$\frac{\pi^{5/4} 2^{5/6} (\sqrt{2} (\sqrt{3} - 1))^{3/2} (\sqrt{2} (1 + \sqrt{3}))^{5/3}}{32 \Gamma\left(\frac{3}{4}\right)^2 \Gamma\left(\frac{11}{12}\right)^{3/2} \Gamma\left(\frac{7}{12}\right)^{3/2}}$$

0.75822593826566567721284364705144

1,-6,9,10,-30,0,12,36,9,-60,-12,-54,62,120,18,-72,-102,-54,-36,156,108,48,-192,-108,
156,78,126,-206,-324,-72,240,324,225,-168,-276,-180,132,264,72,-144,-588,-198,240,
804,270,-288,-312,-324,206,486,225,-528

A280822 Expansion of $\phi(-x) * f(-x)^2 * f(-x^6)^3$ in powers of x where $\phi()$, $\chi()$, $f()$

are Ramanujan theta functions.

$$\frac{9 e^{\frac{5\pi}{6}} \sqrt{3} \Gamma\left(\frac{2}{3}\right)^5 \Gamma\left(\frac{11}{12}\right)^7 \Gamma\left(\frac{7}{12}\right)^{12} (2 + \sqrt{3})}{2048 \pi \Gamma\left(\frac{3}{4}\right)^{25}}$$

0.83306529693958893252783356734646

1,-4,3,4,-1,-4,-11,20,-9,-8,8,12,16,-28,-3,-16,-7,0,37,-12,32,40,-37,-32,-65,44,-16,-8,41,
48,-34,8,-39,4,64,-40,24,-4,3,-32,-33,-12,43,-88,81,-28,-67,44,103,32,50,88,-79,-48,
-80,8,-176,-68,53,132,-16

A280874 Expansion of Product_{k>=1} (1 - x^(6*k)) * (1 + x^k) / (1 - x^k).

$$\frac{e^{\frac{\pi}{4}} 2^{11/12} 3^{5/8}}{6 (\sqrt{2} (1 + \sqrt{3}))^{1/6}}$$

1.0945959159114500121073719928949

1,2,4,8,14,24,39,62,96,146,218,320,463,662,936,1310,1816,2496,3404,4608,6196,8278,
10994,14520,19076,24938,32448,42032,54218,69656,89149,113680,144456,182952,
230966,290688,364774,456446,569600,708938,880128,1089984

A280908 Expansion of Product_{k>=1} ((1+x^k) / ((1-x^(2*k-1)) * (1-x^(8*k-4)))).

$$\frac{e^{\frac{\pi}{4}} 2^{7/16}}{2 (2 + \sqrt{2})^{1/4}}$$

1.0925518207108120282461105394240

1,2,3,6,10,16,25,38,56,82,118,166,233,322,440,598,804,1072,1422,1872,2449,3188,
4126,5312,6810,8690,11040,13974,17618,22130,27707,34572,43000,53328,65942,
81312,100004,122674,150110,183254,223200,271248,328945,398086

A280948 Expansion of Product_{k>=1} (1 - x^(6*k)) * (1 + x^(12*k-3)) * (1 + x^(12*k-9)) / ((1 - x^(4*k-2)) * (1 - x^(2*k))).

$$\frac{2 e^{\frac{\pi}{8}} 2^{23/24} \Gamma\left(\frac{11}{12}\right)^{3/2} \Gamma\left(\frac{7}{12}\right)^{3/2}}{\Gamma\left(\frac{3}{4}\right)^3 (\sqrt{2} (\sqrt{3} - 1))^{3/2} (\sqrt{2} (1 + \sqrt{3}))^{4/3}}$$

1.0038298826170709659485328792738

1,0,2,1,4,2,7,4,12,8,20,14,32,24,50,39,76,62,114,96,168,145,244,216,350,316,496,456,
696,650,968,916,1334,1278,1824,1766,2475,2420,3336,3290,4468,4440,5948,5952,

7874,7929,10368,10500,13584,13828,17714

A282544 Expansion of $(\phi(x)^4 + 3\phi(x^3)^4) / 4$ in powers of x where $\phi()$ is a Ramanujan theta function.

$$\frac{3 \Gamma\left(\frac{2}{3}\right)^2 \Gamma\left(\frac{11}{12}\right)^3 \Gamma\left(\frac{7}{12}\right)^5 (2 + \sqrt{3})}{16 \Gamma\left(\frac{3}{4}\right)^{12}}$$

1.0987852967628734197825713976782

1,2,6,14,6,12,42,16,6,50,36,24,42,28,48,84,6,36,150,40,36,112,72,48,42,62,84,158,48,
60,252,64,6,168,108,96,150,76,120,196,36,84,336,88,72,300,144,96,42,114,186,252,
84,108,474,144,48,280,180,120,252

A283120 Expansion of $\exp(\sum_{n \geq 1} \sigma(8n) x^n / n)$ in powers of x .

$$\frac{4 e^{-\frac{\pi}{24}} 2^{1/8} \Gamma\left(\frac{3}{4}\right)^8}{\pi^2}$$

1.9715615713132108304396834207601

1,15,128,815,4289,19663,81057,306799,1081986,3594142,11338690,34193246,
99080387,277046893,750192227,1973050940,5053026949,12628736331,
30859262181,73849589786,173333118663,399528823032,905418038792,
2019454523623,4437187104779

A283163 Expansion of $\exp(\sum_{n \geq 1} -\sigma(4n) x^n / n)$ in powers of x .

$$\frac{e^{\frac{\pi}{24}} \pi 2^{7/8}}{4 \Gamma\left(\frac{3}{4}\right)^4}$$

0.72812335307189038103046534010890

1,-7,17,-14,2,-21,36,13,-26,-24,10,12,-17,34,22,19,-96,-10,14,38,0,12,-23,72,-38,-2,-11,
-64,-34,0,72,84,-26,0,0,-79,60,24,-32,-58,-7,-84,50,26,120,0,0,46,-34,-64,10,-119,70,
0,22,-70,36,37,-120,0

A283168 Expansion of $\exp(\sum_{n \geq 1} -\sigma(8n) x^n / n)$ in powers of x .

$$\frac{e^{\frac{\pi}{24}} \pi^2 2^{7/8}}{8 \Gamma\left(\frac{3}{4}\right)^8}$$

0.50721215839783461607099359152719

1,-15,97,-350,770,-1133,1540,-2731,4230,-3960,3402,-6580,9167,-5390,4310,-11061,
12320,-5306,2030,-7530,14784,-4340,-10119,-9240,20090,11438,-17275,-4928,2270,
14080,-26840,7700,16646,24640,-53760,7449,10780,46200,-61600

A284286 Expansion of $\eta(q^2)^4 / \eta(q)^8$ in powers of q .

$$\frac{2 \Gamma\left(\frac{3}{4}\right)^4}{\pi}$$

1.4355400220922599956423864473316

1,8,40,160,552,1712,4896,13120,33320,80872,188784,425952,932640,1988080,4137024,
8422848,16810536,32943760,63482760,120440608,225217904,415498496,
756920160,1362645440,2425895712,4273590392,7454092720,12879684160,
22056267840

A286346 Expansion of $\eta(q)^{24} / \eta(q^2)^{12}$ in powers of q .

$$\frac{\pi^3}{8 \Gamma\left(\frac{3}{4}\right)^{12}}$$

0.33802909703322541325022619188346

1,-24,264,-1760,7944,-25872,64416,-133056,253704,-472760,825264,-1297056,1938336,
-2963664,4437312,-6091584,8118024,-11368368,15653352,-19822176,24832944,
-32826112,42517728,-51425088,61903776,-78146664,98021616,-115331264,
133522752

A286399 Expansion of $\eta(q^2)^{12} * \eta(q^4)^8 / \eta(q)^8$ in powers of q .

$$\frac{\pi^3}{1024 \Gamma\left(\frac{3}{4}\right)^{12}}$$

0.0026408523205720735410173921240896

0,0,1,8,32,96,244,528,1024,1856,3126,5016,7808,11616,16808,23856,32768,44352,
59293,77352,100032,128128,161052,201264,249856,305280,371294,450128,537856,
640992,762744,894528,1048576,1228224,1419858,1642080,1897376,2167008

A286953 Expansion of Product_{j>=1} (1 - x^j)/(1 - x^(4*j))^4.

$$\frac{8 e^{-\frac{5\pi}{8}} 2^{1/8} \Gamma\left(\frac{3}{4}\right)^3}{\pi^{3/4}}$$

0.95493211066523416542383304484280

1,-1,-1,0,4,-3,-4,1,14,-10,-14,4,39,-26,-40,13,101,-65,-105,36,238,-147,-251,91,534,
-322,-569,212,1135,-666,-1222,469,2328,-1340,-2526,987,4606,-2600,-5035,2002,
8867,-4928,-9751,3926,16624,-9100,-18382,7488,30499

A287990 Expansion of Jacobi theta constant (theta_2/2)^36.

$$\frac{e^{\frac{9\pi}{2}} \pi^9 \sqrt{2}}{8388608 \Gamma\left(\frac{3}{4}\right)^{36}}$$

4.5988676018259066199830371187693

1,36,630,7176,60165,398412,2184078,10255320,42321942,156590980,527649912,
1639560888,4745867595,12904341336,33190117110,81222775680,190066236318,
427113304920,925107172122,1937505253320,3934709716500,7767340567380,
14937197788890

A287991 Expansion of Jacobi theta constant (theta_2/2)^48.

$$\frac{e^{6\pi} \pi^{12}}{1073741824 \Gamma\left(\frac{3}{4}\right)^{48}}$$

7.6477651372120365987118514087432

1,48,1128,17344,196836,1764192,13051008,82244736,452197434,2210431056,
9753024192,39328459968,146436844568,507826976160,1652238451200,
5074887938688,14794635174459,41126600601168,109456398969568,
279899944411776,689873759134308

A288143 Expansion of x * phi(x) * phi(x^3)^2 * f(x, x^5)^3 in powers of x where phi() is a Ramanujan theta function and f(,) is Ramanujan's general theta function.

$$\frac{e^{\pi} 3^{3/4} \pi^2 (\sqrt{3} - 1)}{54 \Gamma\left(\frac{2}{3}\right) \Gamma\left(\frac{3}{4}\right)^5 \Gamma\left(\frac{7}{12}\right)}$$

1.2338550899790064832414220733264

1,5,9,11,24,45,50,53,81,120,120,99,170,250,216,203,288,405,362,264,450,600,528,477,
601,850,729,550,840,1080,962,821,1080,1440,1200,891,1370,1810,1530,1272,1680,
2250,1850,1320,1944,2640,2208,1827,2451,3005,2592

A290404 Expansion of $(1 - \lambda(z) + \lambda(z)^2)^3$ in powers of nome $q = \exp(\pi i z)$ where $\lambda(z)$ is the elliptic modular function (A115977).

$$\frac{27}{64}$$

0.42187500000000000000000000000000

1,-48,1920,-55360,1324032,-26724000,464570880,-7064945280,94923448320,
-1136097028848,12215871801600,-119054431876800,1060887371509760,
-8714739888694560,66487024888734720,-474247005621552000,
3181339807178883072,-20174389229411069280

A291124 Expansion of $\phi(x)^6 * \phi(-x)^2$ in powers of x where $\phi()$ is a Ramanujan theta function.

$$\frac{\pi^2 \sqrt{2}}{2 \Gamma\left(\frac{3}{4}\right)^8}$$

1.3725064172305943995979133748490

1,8,16,-32,-144,-16,448,192,-912,-88,2016,-352,-4032,176,5504,64,-7056,400,12112,
352,-18144,-768,21312,-448,-25536,-968,35168,1216,-49536,1584,56448,-1280,
-56208,1408,78624,-384,-109008,-1296,109760,-704,-114912,-1584

A293132 G.f.: $2^*q * \text{Product}_{\{n \geq 1\}} (1 + q^{(2*n)}) / ((1 + q^n) * (1 + q^{(2*n-1)}) * (1 + q^{(4*n)}))$ in powers of q .

$$\left(2^{45/64} 3^{19/32} \left(\frac{\pi \sqrt{3}}{\Gamma\left(\frac{2}{3}\right)} \right)^{45/32} \sqrt{\frac{\pi \sqrt{2} \sqrt{2+\sqrt{2}}}{\Gamma\left(\frac{7}{8}\right)}} \left(\frac{\pi \sqrt{2} (1+\sqrt{3})}{\Gamma\left(\frac{11}{12}\right)} \right)^{45/32} \right. \\ \left. \left(\frac{\pi \sqrt{2} (\sqrt{3}-1)}{\Gamma\left(\frac{7}{12}\right)} \right)^{45/32} \right) / \left(9 \pi^{13/128} (e^\pi)^{1/12} \left(\frac{\pi \sqrt{2}}{\Gamma\left(\frac{3}{4}\right)} \right)^{53/16} \left(\frac{\pi}{\Gamma\left(\frac{5}{6}\right)} \right)^{45/64} \sqrt{\frac{\pi \sqrt{2} \sqrt{2-\sqrt{2}}}{\Gamma\left(\frac{5}{8}\right)}} \right)$$

1.8374330034463639102271218954383

1,2,4,6,10,16,24,36,52,74,104,144,196,264,352,468,614,800,1036,1332,1704,2168,2744,
3456,4331,5408,6724,8328,10278,12640,15496,18936,23072,28030,33960,41040,
49470,59488,71368,85428,102042,121632,144692,171792,203584

A293422 The PDO_t(n) function (Number of tagged parts over all the partitions of n with designated summands in which all parts are odd).

$$\frac{1024 e^{\pi} \pi^{5/3} 3^{23/24} \Gamma\left(\frac{11}{12}\right)^{47/6} \Gamma\left(\frac{7}{12}\right)^{11/2}}{3 \Gamma\left(\frac{2}{3}\right)^{7/3} \Gamma\left(\frac{3}{4}\right)^{46/3} (\sqrt{2} (1 + \sqrt{3}))^{47/6} (\sqrt{2} (\sqrt{3} - 1))^{11/2}}$$

1.0944192563140623458857728610512

1,2,4,6,10,16,24,36,52,74,104,144,196,264,352,468,614,800,1036,1332,1704,2168,2744,
3456,4331,5408,6724,8328,10278,12640,15496,18936,23072,28030,33960,41040,
49470,59488,71368,85428,102042,121632,144692,171792,203584

A294387 Expansion of $\chi(q^3) / \chi^3(q)$ in powers of q where $\chi()$ is a Ramanujan theta function.

$$\frac{3^{1/3} \Gamma\left(\frac{2}{3}\right)^{2/3} \Gamma\left(\frac{11}{12}\right)^{1/3} \Gamma\left(\frac{7}{12}\right) \sqrt{2} (1 + \sqrt{3})}{4 \pi^{1/3} \Gamma\left(\frac{3}{4}\right)^{4/3} (\sqrt{2} (1 + \sqrt{3}))^{1/3}}$$

0.88066268175483768635377974244328

1,-3,6,-12,21,-36,60,-96,150,-228,342,-504,732,-1050,1488,-2088,2901,-3996,5460,
-7404,9972,-13344,17748,-23472,30876,-40413,52644,-68268,88152,-113364,145224,
-185352,235734,-298800,377514,-475488,597108,-747690,933672

A299473 $a(n) = 3 \cdot p(n)$, where $p(n)$ is the number of partitions of n.

$$\frac{3 e^{-\frac{\pi}{24}} 2^{3/8} \Gamma\left(\frac{3}{4}\right)}{\pi^{1/4}}$$

3.1416284101381263906593965894965

3,3,6,9,15,21,33,45,66,90,126,168,231,303,405,528,693,891,1155,1470,1881,2376,3006,
3765,4725,5874,7308,9030,11154,13695,16812,20526,25047,30429,36930,44649,
53931,64911,78045,93555,112014,133749,159522,189783,225525,267402,316674,
374262,441819,520575,612678

A299474 $a(n) = 4 \cdot p(n)$, where $p(n)$ is the number of partitions of n.

$$\frac{4 e^{-\frac{\pi}{24}} 2^{3/8} \Gamma\left(\frac{3}{4}\right)}{\pi^{1/4}}$$

4.1888378801841685208791954526620

4,4,8,12,20,28,44,60,88,120,168,224,308,404,540,704,924,1188,1540,1960,2508,3168,
4008,5020,6300,7832,9744,12040,14872,18260,22416,27368,33396,40572,49240,
59532,71908,86548,104060,124740,149352,178332,212696,253044,300700,356536,
422232,499016,589092,694100,816904

A302856 Number of ways of writing n as a sum of 32 squares.

$$\frac{\pi^8}{\Gamma\left(\frac{3}{4}\right)^{32}}$$

14.194415902939396157607342110136

1,64,1984,39680,575424,6448000,58115328,433131008,2724906944,14709082432,
69079796864,285848172800,1054968628480,3515371815296,10706472186368,
30156949879296,79395777333184,197101549419648,464573878394560,
1045365667116800,2256126097001600,4689805691447296

A318937 $a(n) = 16$ times the sum of the cubes of the divisors of $2^n + 1$.

$$\frac{3 e^{\frac{\pi}{2}} \pi^2 \sqrt{2}}{\Gamma\left(\frac{3}{4}\right)^8}$$

39.614466451905407671448176159956

16,448,2016,5504,12112,21312,35168,56448,78624,109760,154112,194688,252016,
327040,390240,476672,596736,693504,810464,984704,1102752,1272128,1526112,
1661184,1887888,2201472,2382048,2685312,3073280,3286080,3631712,4166528,
4431168,4812224

A319294 Expansion of $128 * ((\theta_3(q)^4 + \theta_4(q)^4)/\theta_2(q)^8 + (\theta_4(q)^4 - \theta_2(q)^4)/\theta_3(q)^8)$ in powers of $q = \exp(\pi i t)$.

$$\frac{768 e^{-2\pi} \Gamma\left(\frac{3}{4}\right)^4}{\pi}$$

1.0294228916475327815165518408024

1,0,144,-5120,70524,-626688,4265600,-24164352,119375370,-529539072,2151757440,

-8125793280,28827864296,-96885780480,310514729472,-954123868160,
2823202073655,-8074060259328,22387521828480,-60344692402176,
158484892943628,-406368240128000,1019049374174976

A319306 Expansion of $(7 * \theta_4(q)^{20} * \theta_2(q)^8 + 7 * \theta_4(q)^{24} * \theta_2(q)^4 + 2 * \theta_4(q)^{28}) / (2 * \delta^2)$ in powers of $q = \exp(\pi i t)$, where δ is A000594.

$$\frac{1048576 e^{-4\pi} \Gamma\left(\frac{3}{4}\right)^{20}}{\pi^5}$$

0.69666027053668256199140064651921

1,0,-232,0,86064,-1835008,23619232,-229638144,1841202076,-12765888512,
78856617456,-442924793856,2295931514240,-11106754756608,50583249259456,
-218397947199488,899050944837546,-3545383150551040,13446464974112552,
-49213617532305408

A319307 Expansion of $\theta_4(q)^{16}$ in powers of $q = \exp(\pi i t)$.

$$\frac{\pi^4}{16 \Gamma\left(\frac{3}{4}\right)^{16}}$$

0.23547173316739530942474630383833

1,-32,480,-4480,29152,-140736,525952,-1580800,3994080,-8945824,18626112,
-36714624,67978880,-118156480,197120256,-321692928,509145568,-772845120,
1143441760,-1681379200,2428524096,-3392205824,4658843520,-6411152640,
8705492608,-11488092896

A319308 Expansion of $\theta_4(q)^{20}$ in powers of $q = \exp(\pi i t)$.

$$\frac{\pi^5}{32 \Gamma\left(\frac{3}{4}\right)^{20}}$$

0.16403007198935613910580890178095

1,-40,760,-9120,77560,-497648,2508000,-10232640,34729720,-100906760,259114704,
-606957280,1327461600,-2738111280,5341699520,-9915552192,17701924600,
-30615844560,51294999960,-83279292960,131880275664,-204949382400,
312126610080,-464844224960,680432137440

A319309 Expansion of $\theta_4(q)^{24}$ in powers of $q = \exp(\pi i t)$.

$$\frac{\pi^6}{64 \Gamma\left(\frac{3}{4}\right)^{24}}$$

0.11426367044109772187795551746189

1,-48,1104,-16192,170064,-1362336,8662720,-44981376,195082320,-721175536,
2319457632,-6631997376,17231109824,-41469483552,93703589760,-200343312768,
407488018512,-793229226336,1487286966928,-2697825744960,4744779429216,
-8110465650176

A319310 Expansion of $\theta_4(q)^{28}$ in powers of $q = \exp(\pi i t)$.

$$\frac{\pi^7}{128 \Gamma\left(\frac{3}{4}\right)^{28}}$$

0.079596297339423231930116284917133

1,-56,1512,-26208,327656,-3147984,24189984,-152867520,811401192,-3681079640,
14500933104,-50376047904,156797510688,-444306558864,1163495873088,
-2851049839680,6597606440936,-14512424533488,30505974273096,
-61591664700384,119983597365744,-226303038736128

A319552 Expansion of $1/\theta_4(q)^3$ in powers of $q = \exp(\pi i t)$.

$$\frac{2^{3/4} \Gamma\left(\frac{3}{4}\right)^3}{\pi^{3/4}}$$

1.3114794161716597885427816075693

1,6,24,80,234,624,1552,3648,8184,17654,36816,74544,147056,283440,535008,990912,
1803882,3232224,5707624,9943536,17106960,29088352,48922320,81438528,
134261584,219336630,355242288,570675904,909674688,1439394192,2261635168,
3529838208

A319553 Expansion of $1/\theta_4(q)^8$ in powers of $q = \exp(\pi i t)$.

$$\frac{4 \Gamma\left(\frac{3}{4}\right)^8}{\pi^2}$$

2.0607751550286463163568945962658

1,16,144,960,5264,25056,106944,418176,1520784,5201232,16871648,52252992,
155341248,445226848,1234726272,3323392128,8704504976,22234655520,
55498917840,135595345600,324759439584,763505859072,1764050361152,

4009763323008,8975341703616,19800832628336

A319554 Expansion of $1/\theta_4(q)^{12}$ in powers of $q = \exp(\pi i t)$.

$$\frac{8 \Gamma\left(\frac{3}{4}\right)^{12}}{\pi^3}$$

2.9583252115770034504360765931670

1,24,312,2912,21816,139152,783328,3986112,18650424,81251896,332798544,
1291339296,4776117216,16922753616,57683178432,189821722688,604884735288,
1871370360240,5633654421720,16535803556064,47405095227984,
132942579098368,365211946954656

A319822 Number of solutions to $x^2 + 2y^2 + 5z^2 + 5w^2 = n$.

$$-\frac{\Gamma\left(\frac{5}{8}\right)^4 \sqrt{2+\sqrt{2}} (5+3\sqrt{5}) (3+2\sqrt{2})}{40 \pi \Gamma\left(\frac{7}{8}\right)^4 (-5+\sqrt{5})}$$

1.0904931781796092481506623925320

1,2,2,4,2,4,12,8,18,14,4,28,12,24,32,0,34,20,14,28,4,32,44,40,28,10,40,56,64,72,8,48,
66,24,68,8,46,88,60,32,4,52,64,116,76,12,64,72,60,82,26,72,104,104,88,8,112,56,
136,140,8,136,96,72,98,16,72,132

A320049 Expansion of $(\psi(x) / \phi(x))^6$ in powers of x where $\phi()$, $\psi()$ are Ramanujan theta functions.

$$\frac{e^{\frac{3\pi}{4}} 2^{1/4}}{16}$$

0.78418725859165474593089953428806

1,-6,27,-98,309,-882,2330,-5784,13644,-30826,67107,-141444,289746,-578646,1129527,
-2159774,4052721,-7474806,13569463,-24274716,42838245,-74644794,128533884,
-218881098,368859591,-615513678,1017596115,-1667593666,2710062756,
-4369417452

A320050 Expansion of $(\psi(x) / \phi(x))^7$ in powers of x where $\phi()$, $\psi()$ are Ramanujan theta functions.

$$\frac{e^{\frac{7\pi}{8}} 2^{5/8}}{32}$$

0.75304872679352721329186442864644

1,-7,35,-140,483,-1498,4277,-11425,28889,-69734,161735,-362271,786877,-1662927,
3428770,-6913760,13660346,-26492361,50504755,-94766875,175221109,
-319564227,575387295,-1023624280,1800577849,-3133695747,5399228149,
-9214458260,15584195428

A320069 Expansion of $1/(\theta_3(q) * \theta_3(q^2))$, where $\theta_3()$ is the Jacobi theta function.

$$\frac{4 \sqrt{\pi} \Gamma\left(\frac{7}{8}\right)^2 \sqrt{2-\sqrt{2}}}{\Gamma\left(\frac{5}{8}\right)^2 (2+\sqrt{2})}$$

0.91701683496666156658773258797020

1,-2,2,-4,10,-16,20,-32,58,-86,112,-164,260,-368,480,-672,986,-1348,1750,-2372,3312,
-4416,5684,-7520,10148,-13266,16912,-21960,28896,-37168,46944,-60032,77466,
-98312,123076,-155392,197422,-247696,307540,-384096,481776,-598500

A320070 Expansion of $1/(\theta_3(q) * \theta_3(q^2) * \theta_3(q^3))$, where $\theta_3()$ is the Jacobi theta function.

$$\frac{32 \pi^{15/4} \sqrt{3} \Gamma\left(\frac{7}{8}\right)^8 \sqrt{2-\sqrt{2}}}{9 \left(\frac{17}{12} + \sqrt{2}\right) \Gamma\left(\frac{2}{3}\right) \Gamma\left(\frac{5}{8}\right)^8 \Gamma\left(\frac{11}{12}\right)^2 \Gamma\left(\frac{7}{12}\right)^3 (1+\sqrt{3})}$$

0.91686885321840156196523961718351

1,-2,2,-6,14,-20,32,-60,98,-150,232,-360,558,-828,1196,-1776,2614,-3700,5238,-7480,
10516,-14592,20180,-27832,38216,-51970,70184,-94842,127612,-170140,226164,
-300324,396754,-521520,683484,-893432,1164330,-1511188,1954756,-2524188

A320124 Number of integer solutions to $a^2 + b^2 + 2*c^2 + 3*d^2 = n$.

$$\frac{2^{3/4} \Gamma\left(\frac{2}{3}\right) \Gamma\left(\frac{5}{8}\right)^5 \Gamma\left(\frac{7}{12}\right) (2+\sqrt{2})^3 (1+\sqrt{3})}{128 \pi^2 \Gamma\left(\frac{7}{8}\right)^5}$$

1.1849402533412433549098889834320

1,4,6,10,20,20,24,40,22,28,56,20,50,80,28,80,84,32,78,80,68,100,120,80,88,124,56,82,
136,100,140,200,86,80,192,72,140,240,120,200,248,80,112,176,100,260,224,160,210,
172,186,128,272,180,240,400,124,200,280,116

A320126 Number of integer solutions to $a^2 + b^2 + 2c^2 + 5d^2 = n$.

$$\frac{\sqrt{2} 5^{3/4} \Gamma\left(\frac{5}{8}\right)^4 (3 + 2\sqrt{2}) (5 - \sqrt{5})^{3/2} (\sqrt{5} + 1)^3 \sqrt{2 + \sqrt{2}}}{6400 \pi \Gamma\left(\frac{7}{8}\right)^4}$$

1.1847493930774035572055591445492

1,4,6,8,12,10,16,28,22,36,40,24,56,36,24,64,28,64,78,24,58,48,68,92,80,92,72,112,92,
48,104,96,118,176,64,48,124,84,148,160,104,120,176,120,72,146,88,204,216,124,
126,96,180,148,224,188,120,304,216,120,224,96

A320138 Number of integer solutions to $a^2 + 2b^2 + 3c^2 + 3d^2 = n$.

$$\frac{\Gamma\left(\frac{2}{3}\right)^2 \Gamma\left(\frac{5}{8}\right)^6 \Gamma\left(\frac{7}{12}\right)^2 (7\sqrt{2} + 10) (2 + \sqrt{3}) \sqrt{2} \sqrt{2 + \sqrt{2}}}{128 \pi^3 \Gamma\left(\frac{7}{8}\right)^6}$$

1.0908445581114080430744973274774

1,2,2,8,10,8,24,16,10,38,8,12,48,8,32,64,26,36,70,28,24,80,28,48,96,42,40,76,48,24,112,
64,58,160,68,32,126,56,44,192,56,84,176,44,60,88,80,96,208,114,74,176,72,72,172,
80,112,288,88,76,224,72,112,304,90,96

A320140 Number of integer solutions to $a^2 + 2b^2 + 3c^2 + 5d^2 = n$.

$$\frac{128 (-3 + \sqrt{3}) 10^{1/4} (2 - \sqrt{2})^{9/2} \left(\frac{5}{2} + \sqrt{5}\right) \pi^4 \Gamma\left(\frac{7}{8}\right)^9 (5 - \sqrt{5})^{3/2}}{15 \sqrt{2 + \sqrt{2}} (\sqrt{5} + 1)^3 \Gamma\left(\frac{11}{12}\right)^2 \Gamma\left(\frac{7}{12}\right)^3 \Gamma\left(\frac{5}{8}\right)^9 \Gamma\left(\frac{2}{3}\right)}$$

0.91686857687104464057169857981772

1,2,2,6,6,6,16,8,14,26,8,32,26,8,40,16,22,40,22,32,46,40,24,48,40,42,72,50,32,64,56,28,
74,48,60,112,78,24,72,76,40,144,48,48,120,50,52,48,70,98,150,128,40,84,128,52,176,
120,56,208,96,72,92,72,102,192,156

A320147 Number of integer solutions to $a^2 + b^2 + 3c^2 + 5d^2 = n$.

$$\frac{2^{1/10} 5^{1/4} \Gamma\left(\frac{7}{12}\right) \Gamma\left(\frac{2}{3}\right) \Gamma\left(\frac{7}{10}\right) \Gamma\left(\frac{3}{5}\right)^2 (1 + \sqrt{3}) (\sqrt{5} + 1)^2 (5 + \sqrt{5})}{320 \Gamma\left(\frac{3}{4}\right)^5 \sqrt{\pi} \Gamma\left(\frac{9}{10}\right)}$$

1.1805314606660686416195687473151

1,4,4,2,12,18,8,16,24,28,40,8,26,72,16,16,44,44,68,24,34,80,72,28,40,124,40,50,112,56,
80,40,76,144,120,32,84,216,24,40,136,80,160,88,56,154,88,28,158,228,100,48,216,
172,80,104,80,300,280,40,112,248,120,112

A320149 Number of integer solutions to $a^2 + 2*b^2 + 2*c^2 + 2*d^2 = n$.

$$-\frac{\Gamma\left(\frac{5}{8}\right)^4 (3+2\sqrt{2}) \sqrt{2+\sqrt{2}}}{16 \pi \Gamma\left(\frac{7}{8}\right)^4 (\sqrt{2}-2)}$$

1.0986534618873295727942351752354

1,2,6,12,14,24,20,16,30,14,40,60,36,72,48,16,62,36,42,108,72,96,100,48,68,42,120,120,
112,168,48,64,126,40,108,192,98,216,180,48,136,84,160,252,180,168,144,96,132,
114,126,216,216,312,200,80,240,72,280,348,112

A320150 Number of integer solutions to $a^2 + 2*b^2 + 2*c^2 + 3*d^2 = n$.

$$\frac{3^{3/4} \Gamma\left(\frac{2}{3}\right) 2^{1/4} \Gamma\left(\frac{5}{8}\right)^3 (2+\sqrt{2})^{3/2}}{48 \pi \Gamma\left(\frac{7}{8}\right)^3 \Gamma\left(\frac{11}{12}\right) (\sqrt{2}-1) (\sqrt{3}-1)}$$

1.0947420473107136053688100330414

1,2,4,10,10,16,24,12,28,26,8,48,30,28,72,32,34,64,28,36,80,60,72,96,72,42,56,82,36,
112,120,60,124,96,32,96,130,76,216,140,56,160,48,84,144,112,144,192,150,86,84,
128,140,208,240,96,216,180,56,240,96,124,360

A320151 Number of integer solutions to $a^2 + 2*b^2 + 2*c^2 + 5*d^2 = n$.

$$\frac{5^{3/4} \Gamma\left(\frac{5}{8}\right)^4 (3+2\sqrt{2}) \sqrt{2} (5-\sqrt{5})^{3/2} (\sqrt{5}+1)^3 (4+2\sqrt{2})}{25600 \pi \Gamma\left(\frac{7}{8}\right)^4}$$

1.0945657154193823122175866877714

1,2,4,8,6,10,12,8,28,22,24,40,8,32,36,16,54,32,28,56,26,32,48,40,84,74,72,48,24,92,52,
96,92,32,96,80,42,64,80,80,168,124,48,72,72,94,132,104,72,126,124,96,48,96,120,
168,252,96,120,168,48,196,128,88,246

A320239 Expansion of $\text{theta}_3(q) * \text{theta}_3(q^3) * \text{theta}_3(q^5)$, where $\text{theta}_3()$ is the Jacobi theta function.

$$\frac{\pi^{1/4} \sqrt{3} 5^{3/4} \Gamma\left(\frac{7}{12}\right)^3 \Gamma\left(\frac{11}{12}\right)^2 \Gamma\left(\frac{2}{3}\right) (1+\sqrt{3})^3 (-2+\sqrt{3}) (5-\sqrt{5})^{3/2} (\sqrt{5}+1)^3}{6400 \Gamma\left(\frac{3}{4}\right)^8}$$

1.0866104882516378755410636489104

1,2,0,2,6,2,4,4,4,14,0,0,14,4,4,0,6,12,8,4,2,20,0,4,20,2,8,10,12,4,4,4,16,32,0,0,26,4,0,
12,0,20,8,4,8,6,4,4,42,18,0,8,20,12,16,0,12,48,8,8,0,16,8,12,14,0,16,4,20,24,4,0,36,
28,0,2,20,8,8,4,6

A330373 Sum of all parts of all self-conjugate partitions of n .

$$\frac{e^{-\frac{\pi}{24}} 2^{1/4}}{24}$$

0.043470760943528625521994820367317

0,1,0,3,4,5,6,7,16,18,20,22,36,39,42,60,80,85,90,114,140,168,176,207,264,300,312,378,
448,493,540,620,736,825,884,1015,1188,1295,1406,1599,1840,2009,2184,2451,2772,
3060,3312,3666,4176,4557,4900,5457,6084,6625,7182,7920,8792,9576,10324,11328,
12540

A347801 Expansion of $(\text{Sum}_{\{k \geq 0\}} k^2 * q^{(k^2)})^2$.

$$\frac{1}{64 \pi^{3/2} \Gamma\left(\frac{3}{4}\right)^2}$$

0.0018686485405221383684606569723056

0,0,1,0,0,8,0,0,16,0,18,0,0,72,0,0,0,32,81,0,128,0,0,0,0,288,50,0,0,200,0,0,256,0,450,0,
0,72,0,0,288,800,0,0,0,648,0,0,0,0,723,0,1152,392,0,0,0,0,882,0,0,1800,0,0,0,1696,0,
0,512,0,0,0,1296,1152,2450,0,0,0,0,0,2048,0,162,0,0,4176,0,0,0,3200,1458

A347802 Expansion of $(\text{Sum}_{\{k \geq 0\}} k^2 * q^{(k^2)})^3$.

$$\frac{1}{512 \pi^{9/4} \Gamma\left(\frac{3}{4}\right)^3}$$

0.000080777691771496507346868329874754

0,0,0,1,0,0,12,0,0,48,0,27,64,0,216,0,0,432,48,243,0,384,972,0,768,0,864,804,0,3456,
600,0,0,1968,3888,1350,3072,0,5508,0,0,7776,2400,6075,1728,9600,1944,0,4096,
7776,21600,2022,0,3456,17424,0,13824,21552,0,19521,0,31104,15984,0,0,21600,
34896,11907

A347803 Expansion of $(\text{Sum}_{\{k \geq 0\}} k^2 * q^{(k^2)})^4$.

$$\frac{1}{4096 \pi^3 \Gamma\left(\frac{3}{4}\right)^4}$$

$$3.4918473679955178000766058732981 \times 10^{-6}$$

0,0,0,0,1,0,0,16,0,0,96,0,36,256,0,432,256,0,1728,64,486,2304,768,3888,0,3072,7776,
1728,7112,0,13824,12864,0,27648,6336,15552,9261,18688,62208,21744,24576,0,
72576,51456,24300,117504,38400,101088,9216,93184,155520,86400,142382,62208,
352512,67344,0,202752,286176

A350642 Expansion of $\text{Product}_{\{k \geq 1\}} (1-q^{(2*k)})/(1-q^k)^4$.

$$\frac{2 e^{-\frac{\pi}{12}} \Gamma\left(\frac{3}{4}\right)^3}{\pi^{3/4}}$$

$$1.2003860731402909414643714570620$$

1,4,13,36,90,208,455,948,1901,3688,6955,12792,23019,40612,70395,120072,201822,
334684,548158,887500,1421602,2254460,3541928,5515900,8519173,13055208,
19859113,29998024,45012751,67116436,99472320,146580028,214811311,313149460

A350643 Expansion of $\text{Product}_{\{k \geq 1\}} (1-q^{(2*k)})^2/(1-q^k)^7$.

$$\frac{2 e^{-\frac{\pi}{8}} 2^{5/8} \Gamma\left(\frac{3}{4}\right)^5}{\pi^{5/4}}$$

$$1.3759680043055907578747795522413$$

1,7,33,126,419,1260,3509,9185,22842,54395,124784,277059,597644,1256341,2580363,
5189185,10236710,19840410,37832553,71060190,131610897,240585292,434431132,
775483785,1369359198,2393425484,4143057525,7106240582,12083072562,
20375932566

A350644 Expansion of $\text{Product}_{\{k \geq 1\}} (1-q^{(2*k)})^3/(1-q^k)^{10}$.

$$\frac{4 e^{-\frac{\pi}{6}} 2^{1/4} \Gamma\left(\frac{3}{4}\right)^7}{\pi^{7/4}}$$

$$1.5772325181345541914860946420383$$

1,10,62,300,1235,4522,15130,47084,137990,384370,1024760,2629380,6521693,

15693180,36745810,83935920,187441365,409981826,879717860,1854439520,
3845126929,7850815860,15799770260,31368976420,61490409175,119092108534,
228039325630

A360191 G.f. $1 / \text{Product}_{\{n \geq 1\}} (1 - x^n)^3 * (1 - x^{(2*n-1)})^2$.

$$\frac{e^{-\frac{\pi}{24}} 2^{7/8} \Gamma\left(\frac{3}{4}\right)^3}{\pi^{3/4}}$$

1.2547038002583000343985678035316

1,5,18,55,149,371,867,1923,4086,8374,16634,32152,60669,112041,202943,361200,
632647,1091917,1859225,3126242,5195715,8541624,13899866,22404091,35787815,
56683294,89061028,138872410,214984454,330532633,504869316,766357010,
1156355165

A361535 Expansion of g.f. $1 / \text{Product}_{\{n \geq 1\}} ((1 - x^n)^6 * (1 - x^{(2*n-1)})^4)$.

$$\frac{2 e^{-\frac{\pi}{12}} 2^{3/4} \Gamma\left(\frac{3}{4}\right)^6}{\pi^{3/2}}$$

1.5742816263826200694667463830677

1,10,61,290,1172,4212,13833,42262,121625,332764,871641,2197936,5359005,
12679730,29200593,65617892,144189054,310400110,655669910,1360910666,
2779007594,5589070978,11081585154,21679798590,41883282555,79958881544,
150943109191,281926365224

A385520 Expansion of $\text{Product}_{\{k > 0\}} ((1 - q^{(2*k)}) * (1 - q^{(6*k)})^3) / ((1 - q^k) * (1 - q^{(3*k)}) * (1 - q^{(4*k)}) * (1 - q^{(12*k)}))$.

$$\frac{3^{5/12} \Gamma\left(\frac{2}{3}\right)^{1/3} \Gamma\left(\frac{3}{4}\right)^{7/3} (\sqrt{2} (1 + \sqrt{3}))^{4/3} (\sqrt{3} - 1)}{6 \pi^{1/6} \Gamma\left(\frac{11}{12}\right)^{4/3} \Gamma\left(\frac{7}{12}\right)}$$

1.0453382042005594559752927821918

1,1,1,3,4,5,6,9,13,16,20,27,36,44,54,69,88,107,130,162,200,240,288,351,426,507,602,
723,864,1019,1200,1422,1681,1968,2300,2700,3160,3674,4266,4965,5768,6665,7692,
8892,10260,11792,13536,15552,17844,20407

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